

## A message from the commissioner

We have reached the 21<sup>st</sup> century, a milestone in public health because of our chance to evaluate Year 2000 goals to improve the health of South Carolina and the nation. This annual report helps us compare our goals to reality and see trends toward reaching, surpassing or falling short of those goals. We also face an opportunity to redefine our goals and how we measure our success in this new millennium.

In this new decade, together we can accelerate health improvement if we keep our eyes on clear goals through a State Health Improvement Plan. We must see ourselves as part of a public health system with mutually accountable partners and have the infrastructure we need: highly trained people to carry out difficult and complex tasks; an excellent observation and early warning system to identify health threats and track progress; and the technology for rapid information dissemination and exchange.

These are steps that I believe we must take:

The National Healthy People 2010 goals were released in January. These goals should become our benchmarks for tracking progress, rather than comparing ourselves to other states as the standard. When we judge ourselves primarily by rankings with other states, it is easy to become discouraged. We may be improving more rapidly than other states, but since all states are making progress, it takes a while to become the leader. By focusing on the national goals, we know how much progress we have to make. We should do this through a unified State Health Improvement Plan.

The Centers for Disease Control and Prevention and the National Association of County and City Health Officials are jointly developing performance standards for state and local public health *systems*. These *systems* include the state or local public health officer's organization working in partnership with state and local governmental agencies and private entities that provide services essential to the public's health. Public health is a shared responsibility. The public health *system* should reflect this joint responsibility and be accountable for investments and



improvements. DHEC will be assessing its own performance using the CDC performance standards and encourages other partners to use these standards as well.

The public health infrastructure must be strengthened. This means a work force with knowledge and skills to address the persistent health problems South Carolina faces as well as newly emerging challenges. This means a surveillance system, including the public health laboratory, with the ability to quickly identify threats to the public's health, decide on the best ways to address them, and mobilize resources and communicate to policy makers and health care professionals. The public health system must have the technology to make information rapidly available in a variety of formats for community and health care provider use. A strong infrastructure makes it possible to carry out the essential services of public health.

There is a lot of work to be done. But as Dr. David Satcher, Surgeon General and Assistant Secretary for Health, stated during his visit to South Carolina, "There is no shame in dreaming big dreams and failing to reach those dreams. There is only shame in having no dreams at all." I believe we can achieve our dream of a healthy population in South Carolina if we continue to work together toward common goals.

**Douglas E. Bryant,  
Commissioner  
SC DHEC**

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# Introduction

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Information in this book is based on the best available data on health in South Carolina. Figures for costs or charges are particularly incomplete because they show only what bills a hospital has submitted to insurance companies or patients; they leave out doctors' fees, laboratory and surgical fees, cost of rehabilitation, lost wages, school days and time, and many other costs of illness that are hard to measure.

Most often the **rate** of cases of disease per 100,000 in SC is given. This allows a **comparison** of our rate of that disease with other states or with the United States. Using a rate is necessary because different states and counties have different populations; without using rates a smaller number of cases in another state might simply reflect that state's smaller population and hide the fact that their real rate or risk of disease was the same or larger than ours.

Sometimes in comparing rates of disease between different counties, or rates of uncommon diseases, we give three- or five-year average rates for a more reliable comparison. Combining several years reduces the variation due to chance and makes differences more meaningful.

Because the average age of our population is steadily increasing, and because most diseases are more common as we get older, we "age standardized" rates to remove the increase over time that is due solely to this aging. The result is that any increase over time seen in a graph will probably be a real increase in risk, not just a result of the increase in average age of our population.

Each chapter ends with at least one public health story that demonstrates the essential services of public health. **Healthy People 2000: National Health Promotion and Disease Prevention Objectives** are a national strategy for improving the health of the nation by the year 2000. Many standard disease indicators have **Healthy People 2000** objectives. These are noted on our graphs so that South Carolina's progress toward those national goals can be seen.

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## ESSENTIAL SERVICES OF PUBLIC HEALTH:

1. Monitor health status to identify and solve community health problems (e.g., community health profile, vital statistics, and health status)
2. Diagnose and investigate health problems and health hazards in the community (e.g., epidemiologic surveillance systems, laboratory support)
3. Inform, educate, and empower people about health issues (e.g., health promotion and social marketing)
4. Mobilize community partnerships and action to identify and solve health problems (e.g., convening and facilitating community groups to promote health)
5. Develop policies and plans that support individual and community health efforts (e.g., leadership development and health systems planning)
6. Enforce laws and regulations that protect health and ensure safety (e.g., enforcement of sanitary codes to ensure safety of environment)
7. Link people to needed personal health services (e.g., services that increase access to health care)
8. Assure competent public and personal health care workforce (e.g., education and training for all public health care providers)
9. Evaluate effectiveness, accessibility, and quality of personal and population-based health services (e.g., continuous evaluation of public health programs)
10. Research for new insights and innovative solutions to health problems (e.g., links with academic institutions and capacity for epidemiologic and economic analyses)

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## ***Pregnant Women, Infants***

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One of the most treasured experiences in life can be the conception and birth of a baby. Every parent wants a healthy baby. Ten fingers, 10 toes. His eyes. Her hair. Girl or boy. It just doesn't matter. The chances a baby will get a healthy start in life, however, is lessened if the conception was not planned or wanted when it occurs.

Both pregnancy and infancy represent critical points in life in terms of quality of life and economic consequences. South Carolina could save more than an estimated \$34 million by reducing low weight births from the current 9.6 percent to just the national average of 7 percent. In addition, for every one dollar spent on providing adequate prenatal care to low income women, \$3.38 could be saved from avoided direct medical care for a low weight baby during its first year of life.

The rate of infant deaths is a major indicator of the health status of our population. Children born to families with fewer economic advantages are more likely to experience health problems at an early age. In the following section, we look at circumstances and consequences of pregnancy, the rates of death that occur in infancy during the neonatal or postneonatal period, and the leading causes of deaths during this period.

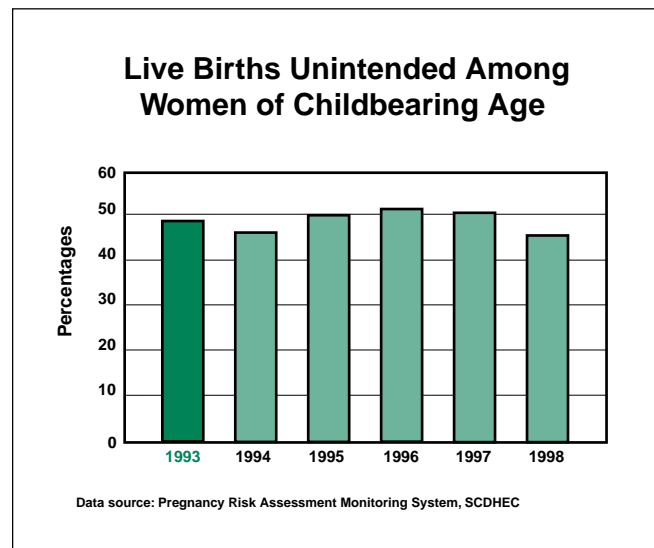
## Pregnant Women, Infants

### Unintended pregnancies, live births

Unintended pregnancies are those that are either mistimed or unwanted. A mistimed pregnancy means the woman wanted to get pregnant, but not at the time she became pregnant. An unwanted pregnancy means the woman did not want to be pregnant at the time she became pregnant or ever.

In Fig. 1.1a, findings are reported from a statewide survey of new mothers in South Carolina called PRAMS (Pregnancy Risk Assessment Monitoring System).

Fig. 1.1a



- Unintended live births are down from a high of up to 50 percent of all pregnancies in 1995, 1996 and 1997.
- The unintended live birth rate for 1998 is 45.8 percent of all live births; this represents the lowest rate seen in the last five years.

Unintended pregnancies affect families in many ways.

For the mother, unintended pregnancy can:

- decrease or delay her participation in prenatal care,
- lessen the chance she will quit smoking and/or drinking alcohol,
- lessen the chance she will eat the right foods to properly nourish herself and the unborn child,
- increase the risk of experiencing violence during her pregnancy,
- reduce the likelihood of her bonding with her newborn child, and
- increase the number of pregnancies she will have.

For the baby, the effects of unintended pregnancy may include:

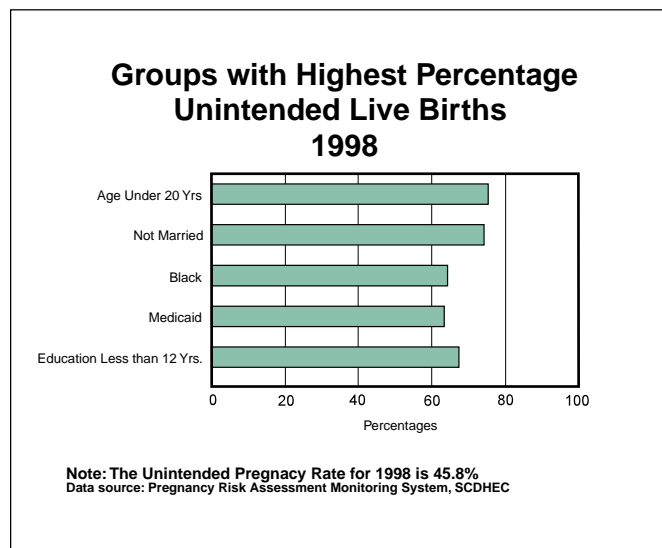
- poorer health at birth, and
- a higher risk of being physically abused and/or neglected.

The birth rate represents pregnancies that result in deliveries. There are other women whose pregnancy, for some reason, did not result in a live birth. Assessing unintended pregnancy based solely on unintended live births does not include pregnancies that did not progress to a live birth due to abortion and/or stillbirth (or fetal death).

The current state unintended live birth rate of 45.8 percent is far from the **Healthy People Year 2000 Objective** of no more than 30 percent of the proportion of unintended pregnancies. It appears that South Carolina will not achieve this objective.

It is important to look at characteristics of the women giving birth who reported that their pregnancy was unintended (Fig. 1.1b).

**Fig. 1.1b**

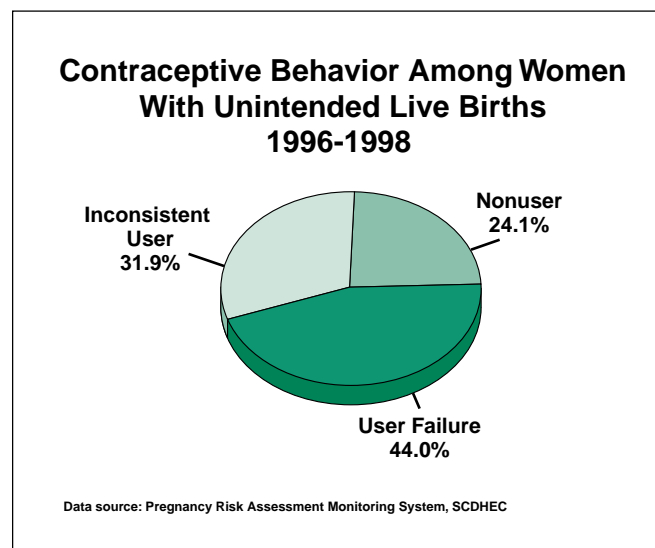


The characteristics of women who are more likely to experience an unintended live birth are:

- women less than 20 years old (accounting for 75.8 percent of unintended live births in 1998),
- women who are not married (accounting for 74.1 percent of unintended live births in 1998),
- women with less than 12 years of education (accounting for 67.4 percent of unintended live births in 1998),
- Black women (accounting for 64.1 percent of unintended live births in 1998), and
- Medicaid eligible women (accounting for 63.3 percent of unintended live births in 1998).

Unintended pregnancies are not accidents or unavoidable events; that is, many unintended pregnancies are preventable.

**Fig. 1.1c**



- Almost 25 percent of women who had an unintended pregnancy were not using a birth control method (nonuser three months before and when they got pregnant).
- More than 30 percent of women who had an unintended pregnancy were inconsistent contraceptive users with their partners.
- Almost 45 percent of women who had an unintended pregnancy reported a contraceptive method failure; condoms were the most frequent method reportedly used when an unintended pregnancy occurred.

The best method of prevention of unintended pregnancy is abstinence, although consistent use of an effective contraception method can also prevent an unwanted pregnancy.

## ***Pregnant Women, Infants***



## Pregnant Women, Infants

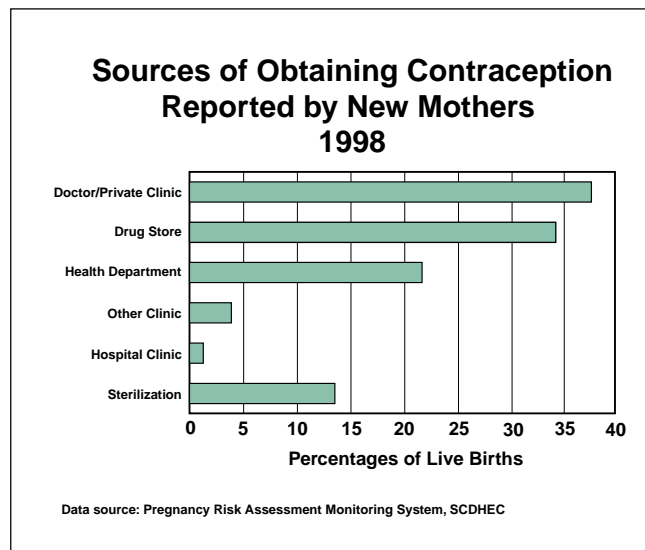
Effective contraception methods (although less effective than abstinence) include:

- birth control pills,
- condoms combined with spermicidal foam or gel,
- DepoProvera injections,
- Norplant, and
- sterilization.

Condoms also reduce the risk of acquiring HIV infection and/or other sexually transmitted diseases.

Several sources of contraception were reported by new mothers in 1998. These sources of contraception are accessible in both the private and public sector and are listed in Fig. 1.1d.

**Fig. 1.1d**

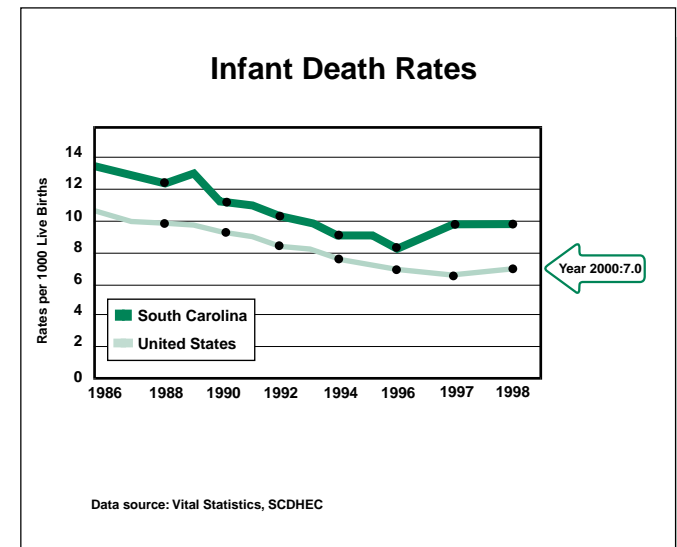


- More than 13 percent of new mothers in 1998 chose to be sterilized.
- Most new mothers (37.5 percent) received contraception from their doctor or a private clinic.
- The local drug store was reported as a common source of contraception by 34.1 percent of new mothers.

## Infant mortality

The infancy period is the time between a baby's birth and his or her first birthday. Infant mortality is a way of describing the number of babies who died during this period. Over the past decade (1987-1998), the nation and South Carolina have made steady progress in the number of babies who are living through their first year.

**Fig. 1.2a**



- South Carolina's infant death rate declined at a faster rate than the rate for the nation from 1987 to 1996. However, in both 1997 and 1998, this improving trend did not continue.
- The S.C. total infant death rate was 9.5 deaths per 1,000 live births compared to the U.S. rate of 7.2 deaths per 1,000 live births in 1998.

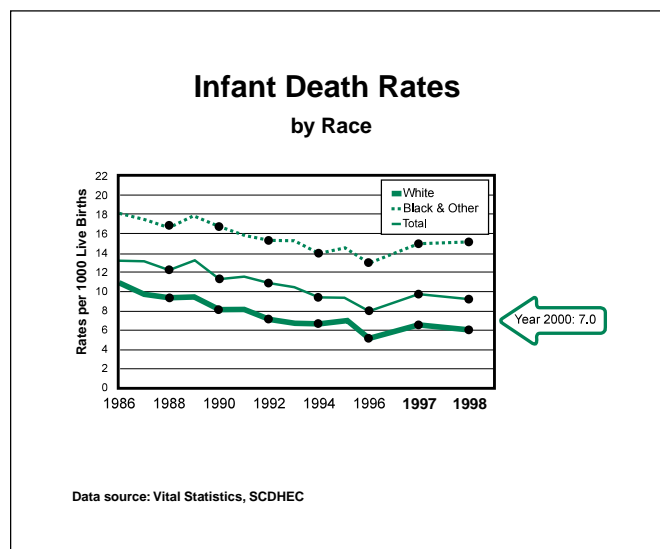
The long-standing improving trend seen by the state has leveled off while the nation continues its downward and improving trend. A total of 494 infants died in S.C. in 1997, and 511 infants died in 1998, resulting in an infant death rate of 9.5 deaths per 1,000 live births each of these two years.



The rate for these years compare to a rate for the nation of 7.2 deaths per 1,000 live births in 1997 and in 1998. The **Healthy People Year 2000 Objective** for the nation is to reduce total infant deaths to no more than seven per 1,000 live births. Given the increase in the SC total infant death rate occurring in both 1997 and 1998, it does not appear South Carolina can reach this target.

During the long period of overall improvement in the infant death rate for the total population in South Carolina, racial differences have persisted. The 1998 race-specific death rates indicate the gap between Black and White infant deaths has widened. Black babies continue to be far more likely to die than White babies before their first birthday. South Carolina's infant death rates, by race, are depicted in Fig. 1.2b.

**Fig. 1.2b**



- The 1997 sudden increase in the infant death rate seen among Whites reversed in 1998, while the worsening infant death rate seen among Black and Others in 1997 continued into 1998.
- The Black-White gap remained nearly steady, showing no significant improvement from 1987 to 1996; the gap then began to widen sharply in 1997 due to a worsening rate among the Black and Other group, and this worsening rate and widening gap continued into 1998.

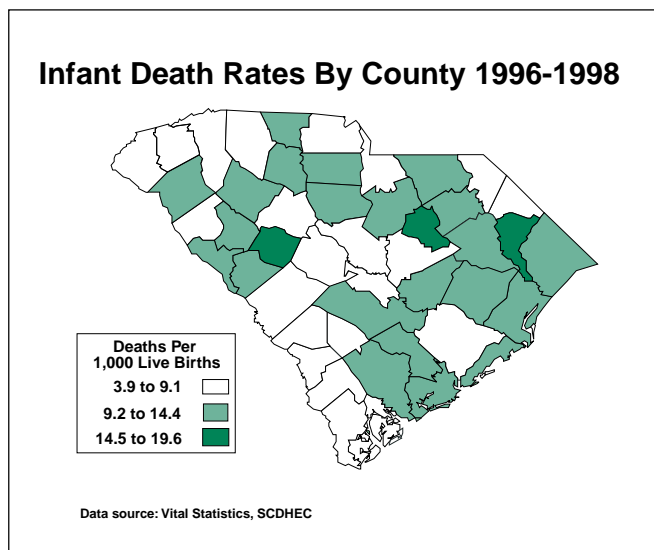
The map in Fig 1.2c shows the regional differences in infant death rates. While several counties have already reached the **Healthy People Year 2000 Objective**, most counties have had difficulty achieving even the three-year average (1996-98) infant death rate for the state of 9.1 infant deaths per 1,000 live births.

- Black and Other infants have died at a significantly higher rate than White infants since 1987.
- Infant deaths for both White and Black and Other groups decreased between 1987 and 1996.

## ***Pregnant Women, Infants***

## Pregnant Women, Infants

Fig. 1.2c



- More than half the counties have not achieved the three-year average (1996-98) infant death rate for the state of 9.1 deaths per 1,000 live births.
- Infant death rates are highest in Saluda, Lee and Marion counties.

### Neonatal mortality

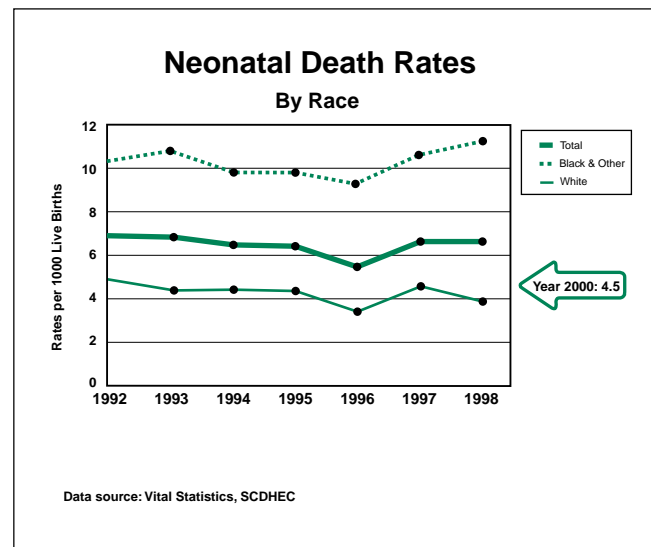
Neonatal mortality is the death rate for infants up to 28 days old; the most fragile period of a young life after birth. In 1998, South Carolina's neonatal death rate for all races was 6.7 deaths per 1,000 live births; this rate is the same as the 1997 rate and continues the 19.6 percent increase above a drop in the rate seen in 1996 (Fig 1.3).

In 1998, the neonatal death rate was 11.4 for the Black and Other group, an increase of 7.5 percent above the 1997 rate of 10.6 neonatal deaths per 1,000 live births. The 1998 White neonatal death rate of 3.9 dropped by 13.3 percent from the 1997 rate of 4.5. **The Healthy People Year 2000 Objective** for the nation is no more than 4.5 neonatal deaths per 1,000 live births. The rate specifically for Black and Other

is no more than seven neonatal deaths per 1,000 live births. The S.C. neonatal rate of 6.7 overall and 11.4 for Black and Others must improve dramatically to meet these targets.

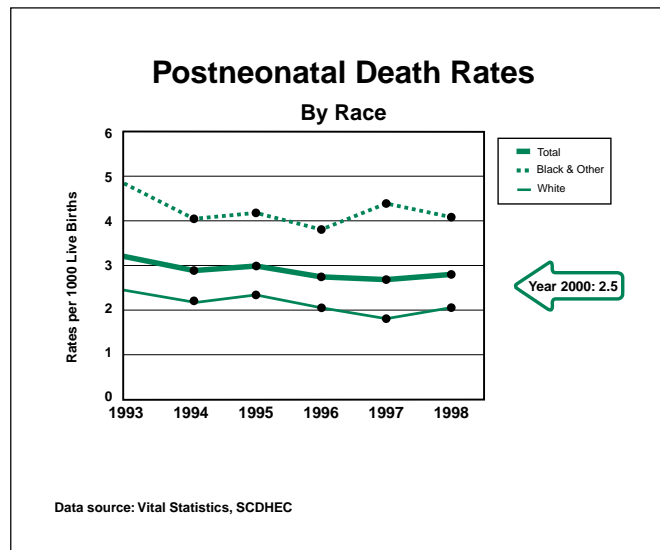
The gap between the Black and Other and White neonatal deaths is persisting through the years and has widened since 1996. Black babies are more than twice as likely than White babies to die within the first 28 days of life, and their numbers are increasing.

Fig. 1.3



- The improving trend for neonatal deaths for both Black and Other group and Whites ended in 1996.
- Black and Other neonatal deaths worsened in 1997 and 1998. White neonatal death rates worsened in 1997, but improved in 1998.
- The gap in rates between Black and Other and Whites widened in 1998.

Fig. 1.4



- Postneonatal deaths among Black and Other and Whites decreased slightly between 1993 and 1998.
- The gap in postneonatal deaths among Black and Other and Whites has been consistent, but improved in 1998 after a sudden widening in 1997.

## Postneonatal mortality

South Carolina's overall postneonatal death rate – the rate of death in babies from 28 days old up to one year – has declined slightly over the past five years. In 1998, the rate was 2.8 deaths per 1,000 live births, which represents a slight increase over 1996 and 1997 when the rate for both years was 2.7. The **Healthy People Year 2000 Objective** for postneonatal mortality is 2.5 deaths per 1,000 live births. The objective for Black infants is four per 1,000 live births (Fig. 1.4). In 1998, South Carolina's postneonatal death rate worsened for Whites, but improved for the Black and Other group. In 1998, the White postneonatal death rate increased from 1.8 to 2.1 deaths per 1,000 live births. The rate for Black and Other dropped from 4.4 to 4.1 deaths per 1,000 live births, representing a 6.8 percent improvement.

The gap in postneonatal death rates between Black and Other and Whites has persisted for some time. In 1998, the gap began to decrease (Fig 1.4).

## Leading causes of infant death

The leading causes of infant death vary depending on the age at death of the infant (Fig 1.5).

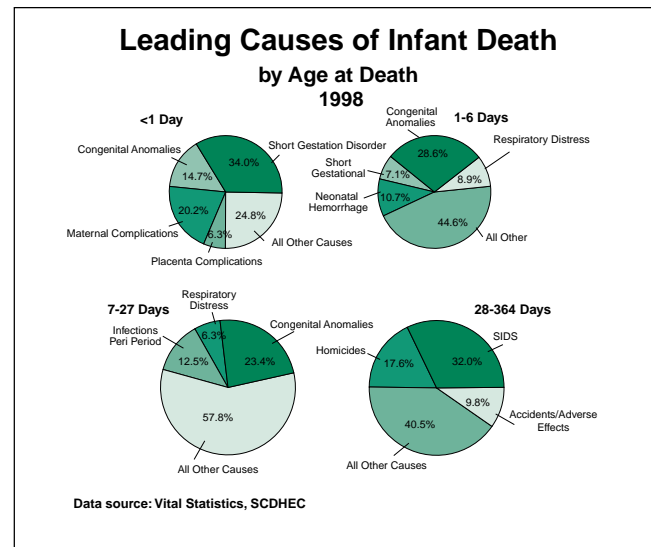
During the neonatal period (birth to 27 days), low birth weight and conditions such as disorders relating to short gestation (prematurity), congenital anomalies, sudden infant death syndrome (SIDS), infections, maternal complications, and hemorrhage represent the most prevalent causes of death.

Leading causes of infant deaths in the postneonatal period (28 to 364 days) include congenital anomalies, SIDS and accidents and adverse effects.

## Pregnant Women, Infants

## Pregnant Women, Infants

Fig. 1.5a



- Congenital anomalies represent a constant threat during infancy, while the threat of death due to respiratory distress diminishes as the newborn ages to 1 year old.

### Low birth weight

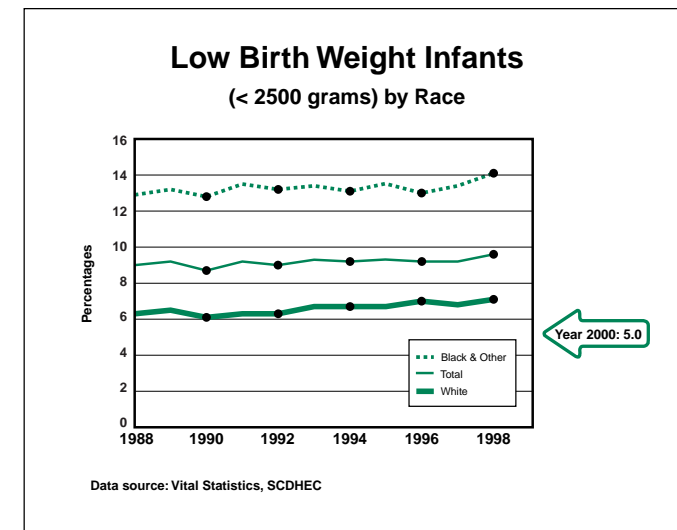
Low birth weight newborns are at higher risk of dying, developing chronic illnesses and conditions, and experiencing developmental delays and learning problems. Low birth weight (LBW) refers to a birth weight less than 2,500 grams or 5.5 pounds. Low birth weight is caused either by being born premature (before completion of the 37th week of fetal development) or poor fetal growth. Several sociodemographic and/or behavioral risk factors also can be associated with low birth weight.

In South Carolina, low birth weight births have increased since 1987 at a slow rate for all groups. Although these increases have been small, they are important (Fig 1-5b).

In 1998, the LBW rate of 14.1 percent for Black and Other increased from the 1997 rate of 13.4 percent. In 1998, the LBW rate of 7.1 percent for Whites increased from the

1997 rate of 6.8 percent. The **Healthy People Year 2000 Objective** for low birth weight is 5 percent for all races, 5 percent for Whites, and 7 percent for Blacks. South Carolina is far from these goals and going in the wrong direction.

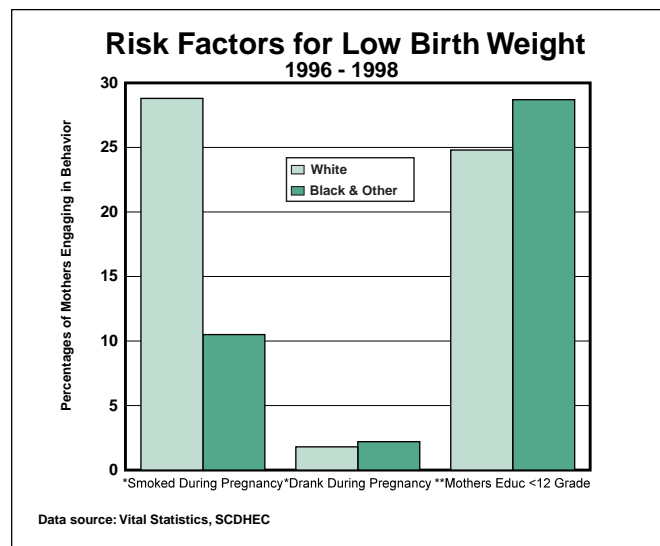
Fig. 1.5b



- The LBW rate for all groups increased from 8.6 percent in 1987 to 9.6 percent in 1998. The rate for Whites increased from 6.1 percent to 7.1 percent during this same period. The greatest increase was among Black and Other infants born too small — from 12.4 percent to 14.1 percent.
- From 1987 through 1998, the gap between Black and Other and White infants persisted. Black and Other infants have continued to be twice as likely to experience low weight at birth than White infants, with both groups going in the wrong direction.

A pregnant woman's smoking and alcohol use can lead to low birth weight. In a recent study, researchers found that mothers who smoke during pregnancy can pass on cancer causing chemicals to the unborn baby.

**Fig. 1.5c**



- Between 1996 and 1998, a higher percentage of White women smoked during pregnancy (28.8 percent) than Black women (10.5 percent).
- Between 1996 and 1998, the percentage of Black and Other women who reported drinking during pregnancy (2.2 percent) was slightly higher than White women (1.8 percent).
- Between 1996 and 1998, 24.8 percent of White mothers and 28.7 percent of Black and Other mothers experiencing a live birth reported having less than a high school education.

The risk of low birth weight among the Black and Others group and the White group varies and depends on the specific risk factor in question: smoking and/or drinking during pregnancy and the mother's education level. The risk of low birth weight among Black and Other compared to Whites has fluctuated from year to year.

Maternal education indirectly reflects other factors such as knowledge, income and lifestyle behaviors that contribute to the health of babies. A low education level tends to parallel poverty, which in turn is associated with increased risk of having a low birth weight baby. During 1996 and 1998, 24.8 percent of White mothers and 28.7 percent of Black mothers who had a live birth reported having less than a high school education.

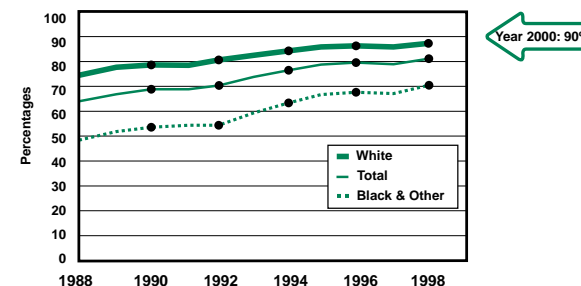
An unplanned pregnancy also can affect a baby's health. Unplanned pregnancies tend to affect the mother's use of health services during the prenatal period and also later involvement of her infant in health services. In 1998, 80.2 percent of pregnant women started prenatal care during the first three months of pregnancy (first trimester). This year (1998) marks the eighth year of consecutive improvement in first trimester entry into prenatal care and the highest percentage ever for women in South Carolina.

- First trimester entry into prenatal care in South Carolina has seen a long-standing improving trend beginning in 1987.
- The gap that has existed between Black and Other and White women receiving prenatal care in the first trimester has improved in recent years. This is largely due to more rapid improvement in first trimester entry among White women.

## Pregnant Women, Infants

**Fig. 1.5d**

### Women Receiving Prenatal Care During First Trimester by Race



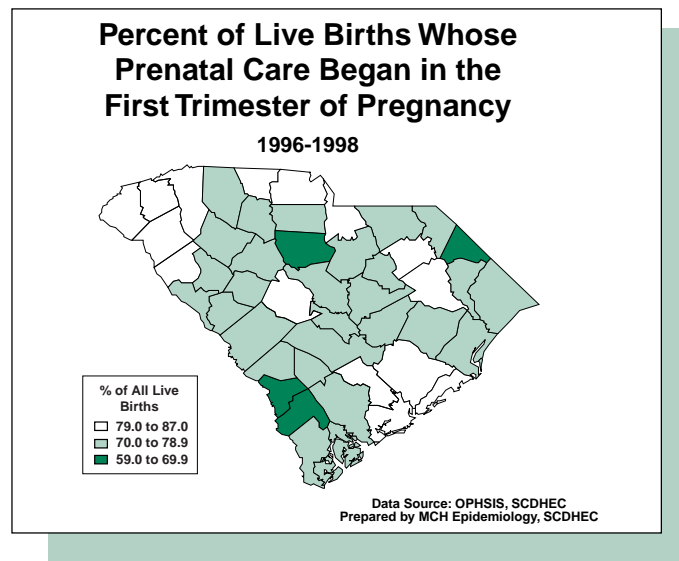
Data source: Vital Statistics, SCDHEC

## Pregnant Women, Infants

In 1998, 86.1 percent of White women compared to 69.6 percent of Black women started prenatal care in the first trimester. The **Healthy People Year 2000 Objective** is for 90 percent of all pregnant women to receive prenatal care in the first trimester (Fig. 1.5d). Despite long-standing improvement, it appears unlikely that the state will attain this goal.

There are also regional differences in improvements in first trimester admission to prenatal care (Fig. 1.5e). Despite solid improvements overall and for all races, far more than half of the 46 counties still fair worse than the state's overall three-year combined average of 79.2 percent of women entering prenatal care in the first trimester of pregnancy.

**Fig. 1.5e**



In Fig. 1.5e:

- Fourteen counties have a first trimester entry into prenatal care rate that equals or exceeds the three-year average rate of 79.2 percent for the state.
- The counties having the lowest first trimester entry rates for the 1996-98 combined period are Allendale, Dillon, Fairfield and Hampton.

## DHEC's role in First Steps

All dimensions of children's development are important for future school readiness, including physical health, language, motor skills, emotional health, social skills, and cognitive development. Families can best provide for their children's needs when their community provides a healthy and supportive social, economic and educational environment.

That's the mission of First Steps to School Readiness.

Signed into law on June 28, 1999, by Gov. Jim Hodges, First Steps is a statewide early childhood education initiative designed to ensure South Carolina children will arrive at first grade healthy and ready to succeed. The goals of First Steps are to:

- provide parents with access to the support they might seek and want to strengthen their families and to promote the optimal development of their preschool children; increase comprehensive services so children have reduced risk for major physical, developmental and learning problems;
- promote high quality preschool programs that provide a healthy environment that will promote normal growth and development; provide services so all children receive the protection, nutrition and health care needed to thrive in the early years of life so they arrive at school ready to learn; and
- mobilize communities to focus efforts on providing enhanced services to support families and their young children so as to enable every child to reach school healthy and ready to learn.

County partnerships are being developed to plan and implement programs that will help children arrive at first grade ready to succeed. County partnerships are to conduct needs and resource assessments and then develop strategic

*continued on page 15*



## ***Outreach helps families get services***

DHEC has a long history of providing outreach into communities to find individuals who need help getting into a system of health care. These actions fall under two essential public health services: **1) Inform, educate, and empower people about health issues; and 2) Link people to needed personal health services and assure the provision of health care when otherwise unavailable.**

DHEC activities date back to the early 1970s when community health assistants went into communities to locate women in need of family planning services and linked those women to reproductive health care. In the last decade, DHEC has implemented initiatives to assist individuals and families in not only accessing health care, but in using available care appropriately. Services range from the continued use of community assistants who promote immunizations and appropriate drug therapy for TB clients to the use of professionals who provide services called Family Support Services that assist families in negotiating barriers to health care and in the practice of healthier behaviors.

In 1997, DHEC entered into a unique partnership with the S.C. Department of Health and Human Services to expand traditional outreach efforts. DHEC assumed the responsibility of assisting the Medicaid agency in identifying and recruiting potentially eligible individuals into the appropriate Medicaid

program and facilitating the medical home concept by recruiting physician practices willing to enroll in the Medicaid program as providers. This serves the Medicaid agency by increasing their network of providers. Most importantly, this arrangement benefits the clients who have increased access to care provided through a partnership of medical and public health professionals working together, each doing what they do best to maximize the health outcomes of those in their communities.

As a result of this collaborative arrangement, the Medicaid agency has added more than 100,000 children to its expanded Children's Health Insurance Program. This tremendous effort has received national recognition. Other states do not have this strong partnership between the private medical community, the public health agency, and the Medicaid agency. Private/public partnerships promoting medical homes for children have grown from four in 1993 to 54 in 1997 and 90 in 2000. More than 100 new physicians have entered into one of several Medicaid programs: regular Medicaid; the Physician's Enhanced Program (partially capitated managed care); and another medical home model for children, the Healthy Options Program.

## ***Pregnant Women, Infants***

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### ***First Steps (continued)***

plans to address the identified needs of young children and their families. Focus areas for county partnerships include lifelong learning, health care, quality child care, and transportation.

DHEC staff have taken an active role throughout the state as participants in these county partnerships. By law, DHEC is represented on each of the county boards. Additionally, the agency has compiled health information and developed recommendations to address the legislation's health related areas: nutrition, affordable access to quality age appropriate health care, early and periodic screenings, required immunizations, initiatives to reduce injuries to infants and toddlers, and technical assistance and consultation for parents and child care providers on health and safety issues.

DHEC's participation in **First Steps is public health at its best: working collaboratively in all communities to solve health problems and foster good child development.** It represents public health activities of monitoring health status to identify and solve community health problems, mobilizing community partnerships and action to identify and solve health problems, and developing policies and plans that support individual and community health efforts.



## ***Summary Findings for Pregnant Women, Infants***

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### **Unintended live births:**

Live births in the state are now on the increase after a short period of decline between 1993 and 1996. This increase is occurring at the same time as an increase in the percentage of couples who report that they don't use contraception even though they don't want a pregnancy. The best method of preventing an unintended pregnancy is abstinence. Consistent and proper use of contraception will also prevent many unintended pregnancies. Correct and consistent contraception use remains a problem, and too many pregnancies continue to be unintended. Equally concerning is the frequency of contraceptive failure among couples who report that they actively use contraception to prevent pregnancy. Women experiencing an unplanned or unwanted pregnancy are more likely to smoke, use alcohol and/or other drugs, or have or contract a sexually transmitted disease.

### **Infant mortality:**

The long-standing and steady progress in the infant death rate leveled off in 1997 and remained the same in 1998. In 1997, the rate of death for Black and Other babies increased. In 1998, the increase continued. Black and Other baby deaths increased by 3.3 percent while the death rate for White babies improved by 4.8 percent.

### **Neonatal, postneonatal deaths:**

In 1998, South Carolina's neonatal death rate for all races was 6.7 deaths per 1,000 live births; this rate is the same as the 1997 rate. For postneonatal babies, the rate of death in 1998 was 2.8 deaths per 1,000 live births, which represents a slight increase over 1996 and 1997 when the rate was 2.7 for both years. But the rate worsened for Whites while improving for Black and Other babies in 1998.

### **Leading causes of infant deaths:**

Congenital anomalies, SIDS, short gestational disorders, maternal complications and infections continue to affect infant mortality. Low birth weight babies are at a higher risk of dying, and those that survive are at greater risk of chronic illnesses and experiencing developmental delays and learning problems. A mother's lifestyle choices, including getting early prenatal care that continues throughout the pregnancy, also influence infant death rates.

## ***Children Birth through 14***

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They are helpless at first, then they crawl, toddle, walk, run. They become seemingly independent so soon. Yet the development of our children hinges on strong hands and firm but loving hearts they find in nurturing families, care givers and communities.

South Carolina's children face a variety of challenges. Even though we recognize them as precious cargo, motor vehicle crashes are the number one killer of children over the age of 1. Nonfatal motor vehicle-related injuries to children, which are predictable and preventable, represent one of the leading causes of hospitalization and cost more than \$20 million a year.

Children comprise the largest population living in poverty in South Carolina. Impoverished children under 5 are three times more likely to be in poor health than children in more affluent families and less likely to access care when available. For a variety of health and social reasons, almost one-fourth of first graders are assessed not ready for their school grade, and 14 percent of first graders repeat one of the first three grades.

It makes sense for children to receive appropriate preventive health services. The total cost for preventive health services for a child from birth to 21 years of age is less than the cost of one typical hospitalization. Each dollar spent to immunize a child saves more than \$10 in treatment of childhood illnesses.

This section looks at three major health problems of children: unintentional injuries including motor vehicle accidents; violence; and chronic conditions that result in hospitalization and can cause disability and even death.

## ***Children Birth through 14***

## Children Birth through 14

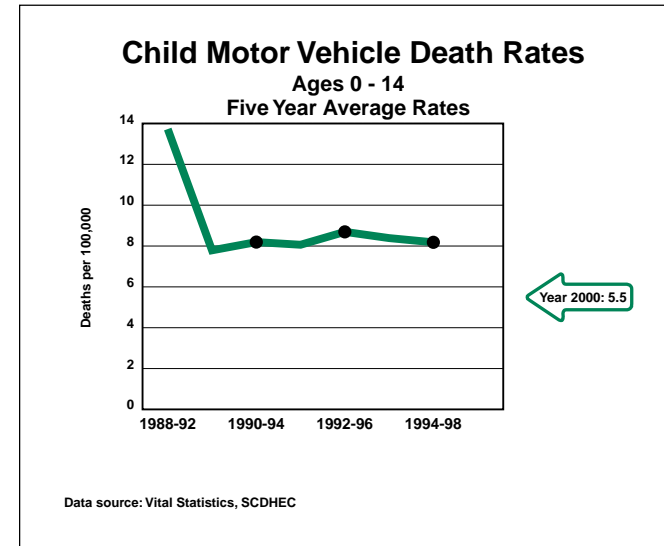
### Unintentional injuries

**Unintentional injuries** are typically called accidents. We expect children to get bumped and bruised as they grow and experiment with the boundaries of their bodies. Most unintentional injuries can be predicted and prevented, and the associated long-lasting health implications can be avoided.

Three types of unintentional injuries for children are a national priority for improvement through the **Healthy People Year 2000 Objectives**: motor vehicle deaths for children from birth to age 14, fire deaths for children from birth to age 4, and drowning for children from birth to age 4.

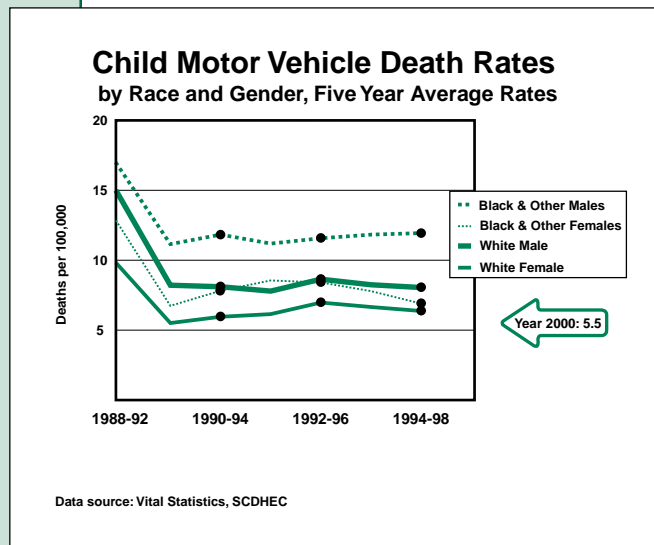
**Motor vehicle crashes** are the leading unintentional killer and disabler of children over the age of 1. From 1994-98, there were 328 deaths among children birth - 14 years old, resulting in a rate of 8.2 deaths per 100,000 children. This compares to a rate of eight deaths per 100,000 children during 1987-91, during which slightly fewer (311) motor-vehicle related deaths occurred. The **Healthy People Year 2000 Objective** is 5.5 deaths per 100,000 children under the age of 14 years old (Fig. 2.1a). Given the current rate and trend, it appears unlikely that S.C. will reach this mark.

Fig. 2.1a



- Motor vehicle deaths overall in South Carolina have experienced a slight increase. The current 1994-98 rate is 8.2 deaths per 100,000 children. The 1989-93 death rate was 7.8 deaths per 100,000 children.

Fig. 2.1b



- Black and Other males are at highest risk of death due to a motor vehicle crash, and this trend has persisted since 1987-91.
- White females are at lowest risk of death due to a motor vehicle crash, and this trend has persisted since the 1987-91 timeframe.
- Motor vehicle deaths increased among all groups in South Carolina, except White males, between 1987-91 and 1994-98.
- Black males experienced the greatest increase in motor vehicle deaths between 1987-91 and 1994-98.

## Motor vehicle deaths

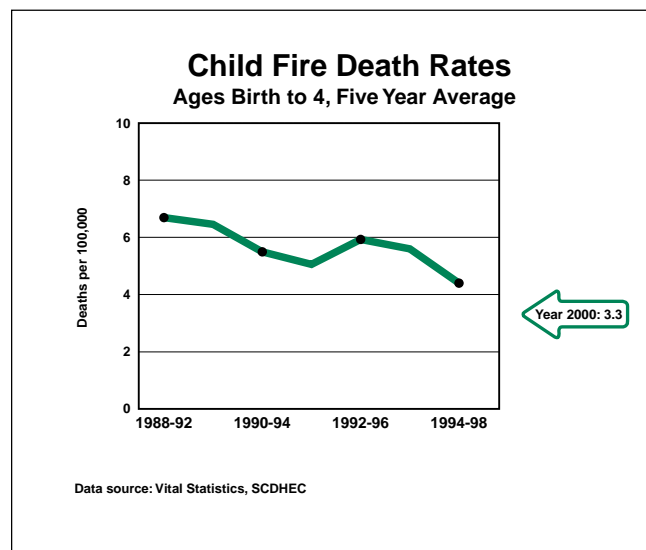
Death rates and trends for motor vehicle crashes vary by race and gender (Fig. 2.1b). From 1994-1998, Black and Other males experienced the highest death rate at 11.9 deaths per 100,000 children, and this compares to a rate of 10.6 during 1987-1991. White males have the second highest death rate of 8.2 for 1993-1997, and this death rate is a slight decrease from the earlier 8.9 rate during 1987-1991. Black females have a rate of 6.9 deaths per 100,000 children for 1994-1998. White females continue to have the lowest motor vehicle-related death rates, and the 1994-1998 rate was 6.7 deaths per 100,000 children. Females have maintained lower death rates than males. Since 1987-91, a worsening rate has been observed for all groups except White males.

## Fire deaths

During 1994-1998, there were 59 fire-related deaths involving children under the age of 4. This current rate of 4.4 deaths per 100,000 children reflects considerable improvement over the 7.8 rate observed in 1987-1991 (Fig. 2.1c). Given the current rate of 4.4 deaths, it seems unlikely that S.C. will reach the **Healthy People Year 2000 Objective** of 3.3 deaths per 100,000 children less than 4 years of age.

Fire-related death rates vary by race and gender (Fig. 2.1d). White children less than 4 years old have a substantially lower death rate than Black and Other children less than 4 years old. Black and other males die from fires more often than any other group, and White females have consistently maintained the lowest risk of death since 1987-91. However, there has been a slightly increasing trend in recent years. The trend for White males has shown little change over time, while deaths involving Black and Others have dropped substantially since 1987-91.

Fig. 2.1c

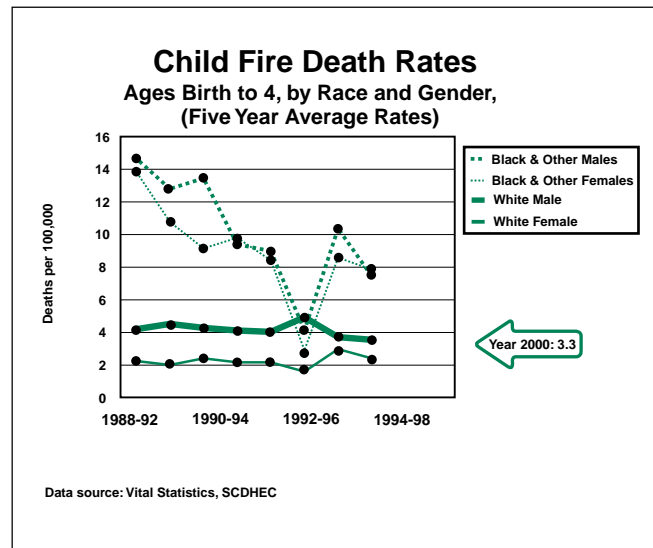


- Fire deaths in South Carolina overall among children less than 4 years of age have decreased substantially based on a 1987-91 rate of 7.8 deaths per 100,000 children and a 1994-98 rate of 4.4 deaths per 100,000 children less than 4 years of age. Given the current rate of decline, it's possible that South Carolina will reach the **Healthy People Year 2000 Objective** of 3.3 deaths per 100,000 children less than 4 years of age.

## Children Birth through 14

## Children Birth through 14

Fig. 2.1d



- Black and others are at highest risk of death due to fire, and this trend has persisted for the most part since 1987-91. Although Whites are at lower risk of a fire-related death than Black and others, the greatest improvement between 1987-91 and 1994-98 has been realized by Black and others.
- White females are at lowest risk of death due to fire, and this trend has persisted from 1987-91 to 1994-98. However, this is the only group where the fire-related death rate has increased, albeit only slightly.

Fig. 2.1e:

- Drowning deaths in South Carolina overall among children less than 4 years of age have decreased substantially based on a 1987-91 rate of 3.8 deaths per 100,000 children and a 1994-98 rate of 2.4 deaths per 100,000 children less than 4 years of age. Given the current rate of decline, it's possible that South Carolina will reach the **Healthy People Year 2000 Objective** of 2.3 deaths per 100,000 children less than 4 years of age.

## Drowning

From 1994-1998, there were 32 drowning-related deaths involving children ages birth to 4. The current death rate is 2.4 deaths per 100,000 children ages birth to 4 (Fig. 2.1e). This rate has been improving constantly since 1987-91 from 3.8 deaths per 100,000 children. Given the current trend, however, the state is unlikely to reach the **Healthy People Year 2000 Objective** of 2.3 deaths per 100,000 children in this age group.

Drowning deaths vary by race and gender (Fig. 2.1f). The death rate among White males (3.7 deaths per 100,000 children) is the highest, and the second highest rate is for Black and Other males at 2.4 deaths per 100,000 children. However, it's important to note that the trend for White males has been steadily decreasing as has the rate for Black and Other males, albeit more slightly and slowly. The death rate for less than 4 year old Black and Other females has consistently been the lowest and has remained stable since 1987-91. Also, the rate for White females has steadily and substantially improved from 4.3 deaths per 100,000 children during 1987-91 to 1.7 deaths per 100,000 children from 1994-98.

Fig. 2.1e

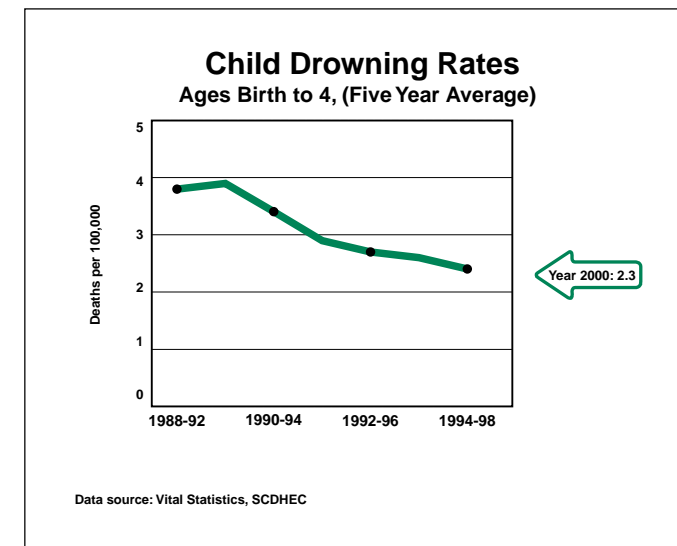
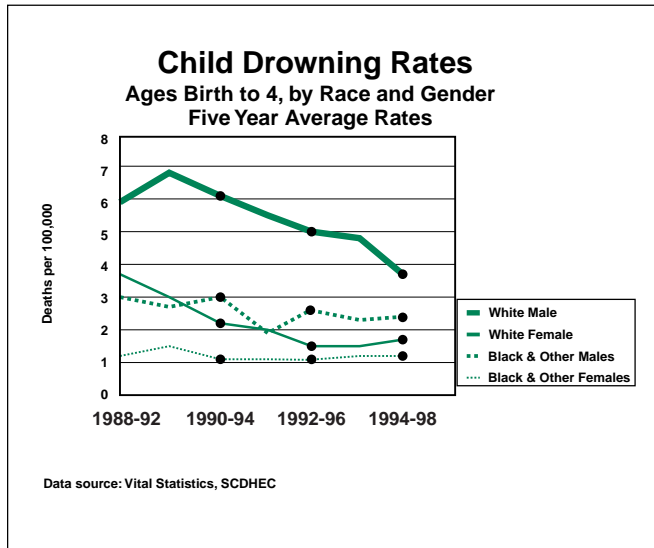


Fig. 2.1f



- White males are at highest risk of death due to drowning, and this trend has persisted since 1987-91. This is despite significant improvement based on a current (1994-98) rate of 3.7, which is down from a 1987-91 high rate of 5.7 deaths per 100,000 children.
- Black and Other females are at lowest risk of drowning, and this has been the case since 1987-91. There has been little change over time, if any, in drowning deaths among Black and Others.

## Homicides and assaults

Not all injuries to children are unintentional. Many injuries to our youngest children are inflicted intentionally by parents, family members, strangers or others whom the child may know. South Carolina has a startling rate of homicides against children from birth to age 3. South Carolina's rate has been higher than the national rate, but has begun to decrease in recent years. The current rate (1994-98) is 5.2 deaths per 100,000 children, up from 4.6 deaths per 100,000 children observed during 1987-91 (Fig. 2.2a). Yet these homicides and reported criminal assaults represent only a small part of the abuse and neglect that occurs among South Carolina's children due to underreporting. Given the current level and rate of incline, it is unlikely that South Carolina will reach the **Healthy People Year 2000 Objective** of 3.1 homicide deaths per 100,000 children.

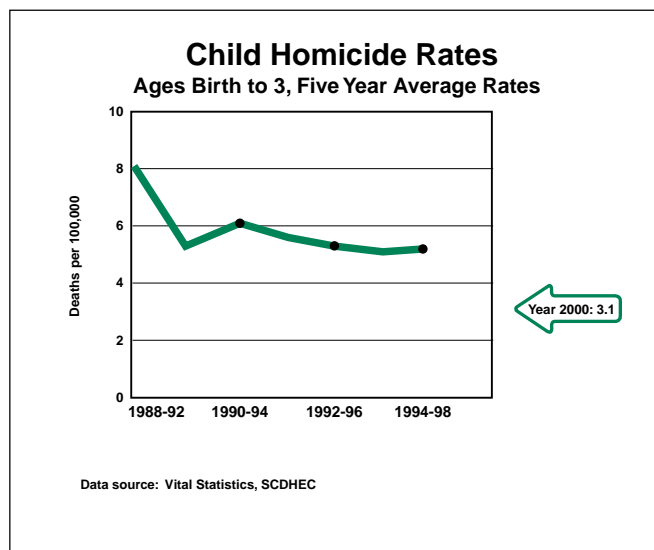
Child homicide rates in the state vary by race and gender (Fig. 2.2b). White children have the lowest death rates. The gap between the homicide rates for White children and Black and Other children has been substantial, and this difference has persisted since 1987-91. Black and Other males have maintained the highest child homicide rate, currently 10.8 deaths per 100,000 children. Although the third highest rate, the death rate for Black and Other females is the only improving rate at this time.

Aggravated assaults are the next level of concern in abuse and neglect. During 1998, the assault rate for South Carolina children from birth to age 4 was 91.8 per 100,000 population. The risk of being assaulted varies by race and gender. Black and Other males had the majority of these assaults (156.3 assaults per 100,000) followed by Black and Other females (97.2) and White males (82.8). The lowest assault rate is among White females at 55.8 assaults per 100,000 population (Fig. 2.2c).

## Children Birth through 14

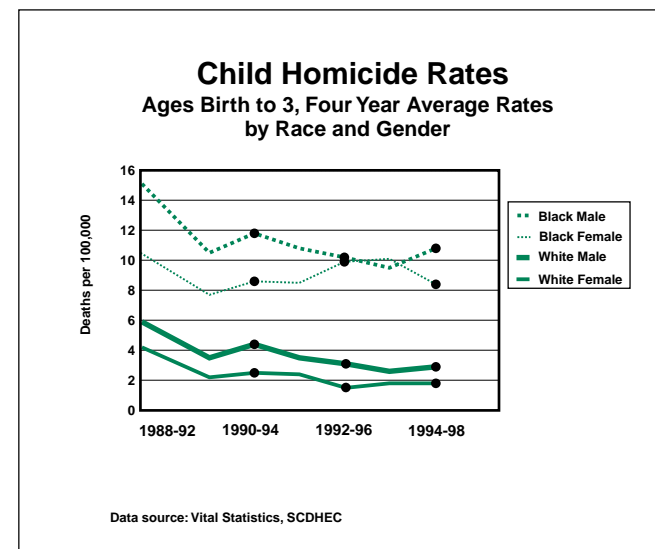
## Children Birth through 14

Fig. 2.2a



- Child homicides in South Carolina, overall, among children under 3 years of age have increased based on a 1987-91 rate of 4.6 deaths and a 1994-98 rate of 5.2 deaths per 100,000 children. Given the current increase, it is unlikely South Carolina will reach the **Healthy People Year 2000 Objective** of 3.1 homicide deaths per 100,000 children less than 3 years of age.

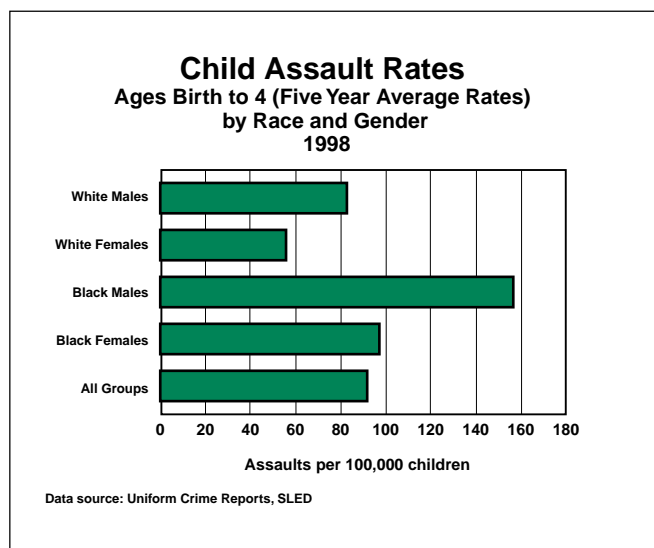
Fig. 2.2b



- Black and Others are more likely to die as a result of homicide than Whites, and this risk is increasing.
- Black and Other males under 3 years of age have the highest risk of death due to homicide, and this trend has worsened since 1987-91. The current rate (1994-1998) is 10.8 deaths per 100,000 children under 3 years old. The 1987-91 rate was 8.6.

Whites are at lowest risk of homicide, and this has been the case since 1987-91. Whites have experienced a slowly improving trend over time; however, in recent years there has been a slight reversal.

Fig. 2.2c



- Black and Others under 4 years old are more likely to be assaulted than Whites. Black and Other males are almost twice as likely to be assaulted than Black and Other females.



## Children with chronic conditions

Growing up healthy is a challenge. *Pediatrics* magazine estimates that 12.6 million children nationally have some chronic physical, developmental, behavioral or emotional condition that requires health and related services beyond those required by children generally.

In South Carolina, 183,000 children have at least one chronic condition, 20,000 of these children are uninsured, 11,000 without a usual source of health care, 33,000 were reported as dissatisfied with one or more aspects of care received at their usual source of care, and 24,000 had one or more unmet health need in the past year. Chronic conditions such as asthma, sickle cell, diabetes, spina bifida or cystic fibrosis affect children emotionally, physically and developmentally. A child with just one chronic illness or condition is more than twice as likely to have a developmental delay, 60 percent more likely to have a learning problem, and 50 percent more likely to have an emotional or behavioral problem. These children have 50 percent more school absences and sick days spent in bed.

These children are also frequent users of health services. If a child has just one illness or condition, the average number of trips to the doctor each year increases 50 percent to almost six visits. The percentage of hospitalizations increases threefold and accounts for more than 10 percent of children hospitalized. In addition, 4.4 percent of children with chronic conditions account for 12 percent of all physician contacts and 14 percent of hospitalizations. Based on South Carolina Medicaid claims, more than 50 percent of Medicaid costs were accounted for by 1 percent of Medicaid-eligible children, children with chronic debilitating conditions.

Based on the 1999 South Carolina Statewide Needs Assessment of 267 families of young adults with chronic conditions, the following key findings were reported for primary care, nutritional, medicinal, transportation and transitional services. These young adults used to receive services from Children's Rehabilitative Services (CRS) in DHEC, but because they turned 18, they had to be transitioned out of CRS.

In the past 12 months 84 percent of children had visited a primary care provider. Forty-one percent said their medical care needs have not been met. Twenty percent had not been

successful in securing an appointment with a doctor. About 50 percent said it is because of being unable to pay the health care cost.

- Nearly one-third indicated having problems keeping their doctor's appointment because of transportation.
- 31 percent said they have dental health care needs.
- 21 percent said they need medicine to take for their condition, but cannot get it, mostly because they have to pay up front or insurance does not cover.
- Even though most said their source of health care coverage is either public (59 percent), private (12 percent) or both, 34 percent said they have no coverage.
- Respondents indicated that before they turned 18, school and other sources such as family members and friends assisted them with their transitional services (i.e. securing employment, job training, college, etc.)

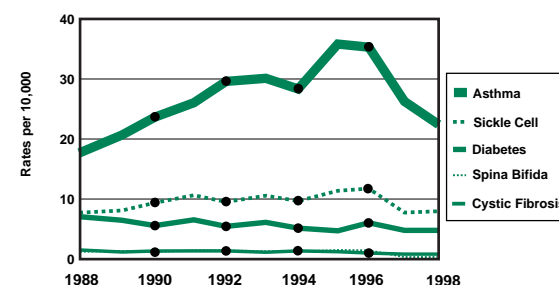
One way to learn about these children is to look at their hospitalization rates:

- **Asthma** is one of the leading chronic conditions of children. The childhood hospitalization rate for asthma in South Carolina has been increasing substantially over the past 10 years. During 1998, there were \$23 million in hospital charges for children with asthma.

## Children Birth through 14

Fig. 2.3a

**Hospitalization Rates for Chronic Conditions**  
Ages Birth - 19, by Condition



Data source: Hospital Discharge Survey,  
SC Budget and Control Board, Office of Research and Statistics

## Children Birth through 14

- The childhood hospitalization rate for **sickle cell** has also been increasing. During 1998, there were \$10.5 million in hospital charges, up from the previous year.
- The childhood hospitalization rate for **diabetes** has slowly been decreasing. During 1998, there were \$3.9 million in hospital charges; up from the previous year.
- The childhood hospitalization rates for **spina bifida** and **cystic fibrosis** have not changed over time.

Fig. 2.3b

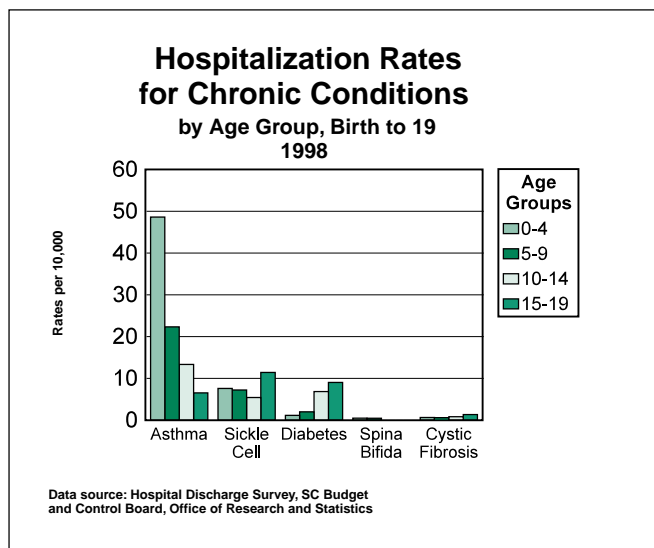
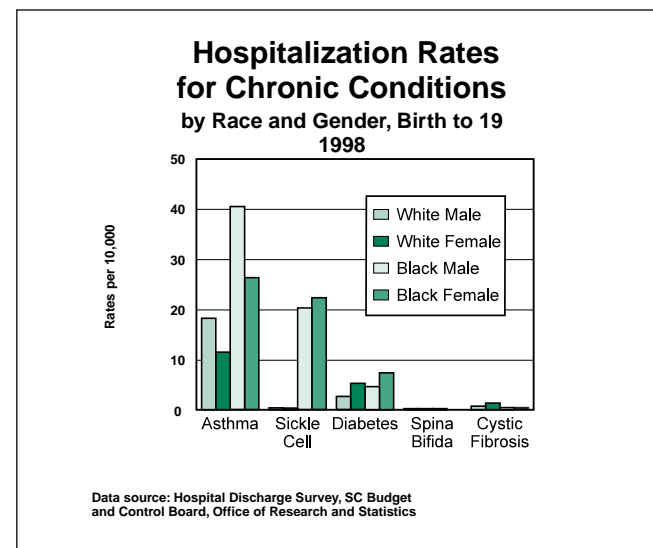


Fig. 2.3c

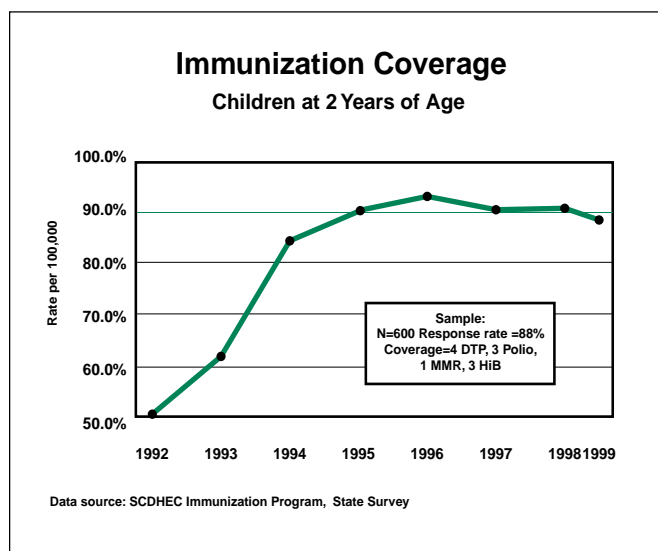


- The hospitalization rates for asthma are highest among Black children.
- Sickle cell is highest among Blacks because it rarely occurs among White children.
- The diabetes rate is highest among Black children, especially females.
- The hospitalization rate for cystic fibrosis is highest among White males and females.
- The hospitalization rate for spina bifida does not differ by race or gender.

## Childhood immunization

Immunization is the most powerful and cost-effective method of preventing serious childhood infections. Between 1993 and 1996, the percentage of South Carolina 2-year-olds receiving a complete set of standard immunizations rose from 62 percent to 93 percent. Attaining a level above 90 percent is important because most of the serious vaccine-preventable childhood infections will die out spontaneously in a population that is over 90 percent resistant. The chief exceptions are measles and influenza; they are so very infectious that they can continue to maintain themselves even when nine out of 10 persons are immune.

Fig. 2.4a

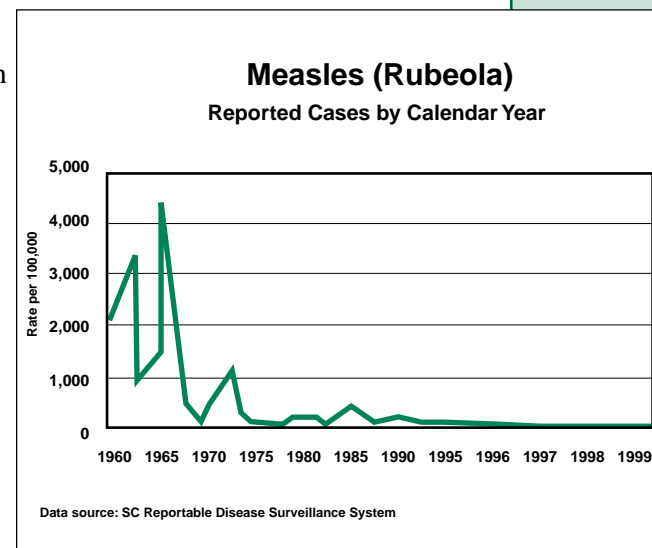


- Public-private partnerships are very important in maintaining a high enough level of childhood immunizations. DHEC estimates that in 1999, more than 55 percent of “baby shots” were given in private pediatricians’ and family physicians’ offices, and 45 percent were given in DHEC clinics for an 89 percent rate of coverage in 1999.

The slight decline in the 1999-point estimate of vaccination coverage does not represent a significant change from previous years. The plateau of 89 to 91.9 percent point estimates of vaccination coverage for the past five years demonstrates the difficulty in improving immunization rates for children who are the most difficult to identify and reach. The new State Immunization Information System (SIIS) allows private doctors’ offices and DHEC clinics to find any child’s previous immunizations no matter where given and give him or her the shots they need on that visit. Full SIIS implementation will help to sustain high levels of vaccination coverage and identify where new and more focused efforts need to be implemented to reach harder-to-find children and raise vaccination coverage levels well above the 90 percent plateau.

## Children Birth through 14

Fig. 2.4b

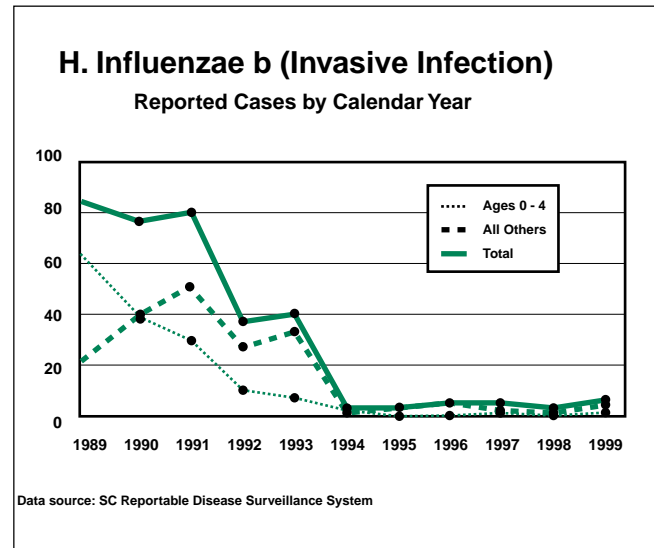


- In the 1950s measles caused at least 30,000 to 40,000 cases of illness, thousands of cases of pneumonia and middle-ear infection, and more than 100 deaths and a like number of brain damaged children each year.
- Since 1995, there has not been a single case of measles acquired by a child in South Carolina. Our high vaccine coverage and rapid response to cases imported from outside has stopped measles.

## Children Birth through 14

Measles vaccinations return more than 10 times their cost of delivery in direct medical cases prevented. The combination measles-mumps-rubella vaccine saves almost 20 times its cost every year. All other standard childhood vaccines save several times their cost in medical care averted each year.

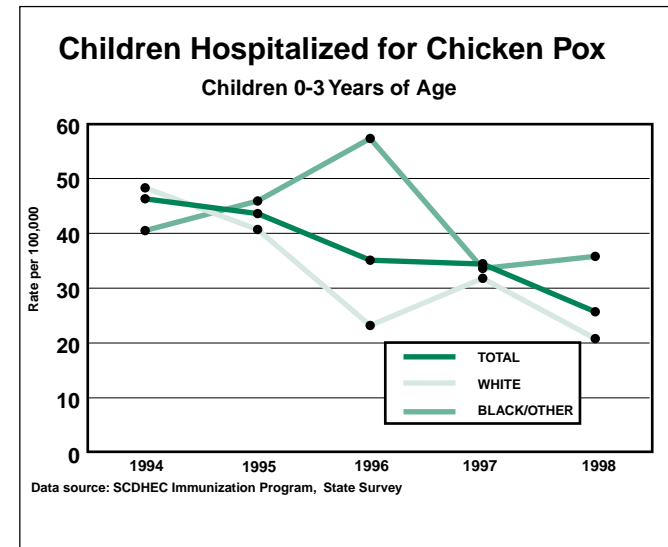
Fig. 2.4c



A very effective and safe vaccine for hepatitis B is now required for all children in their first years of life. There are an estimated minimum of 20,000 new cases each year, of which 2,000 will become long-term carriers of the virus.

- The Hemophilus influenzae type b bacterium caused close to 100 cases of meningitis in children under 3 years old every year until the early 1990s when the new conjugate vaccine began to be delivered in DHEC clinics and doctors' offices. Since then, meningitis in children from this bacterium has almost disappeared. In 1999, there were two cases reported in infants too young to be immunized.

Fig. 2.4d



- Since 1994, the hospitalization rate for chicken pox in young children has decreased slowly, but there are still several hundred children admitted to the hospital each year because of this seemingly "mild" infection. South Carolina had one death reported from this disease in 1999. With the increase in use of the new chicken pox immunization in the last year, we can expect to see hospitalizations begin to drop rapidly in 2000 and beyond.

## Partnerships promote medical homes

Dr. Kent Jones of Easley believes the private medical community and public health practitioners make great partners. “Like a catcher and a shortstop, we play different positions on the field, but we belong to the same team,” he noted in an article in *Medical Economics*.

Dr. Jones’ practice was one of the first pilot programs in the state to join DHEC nurses, nurse practitioners and other public health providers in private practices, creating a medical home where children can receive all the essential medical services in addition to the support services provided by the public health agency.

Through the 1980s, public health in South Carolina provided health services for the underserved and uninsured. More than 60 percent of the well child care for children on Medicaid was provided in health department clinics. Clients also often got health care services through hospital ambulatory and primary care centers. At best, care was fragmented, with the health department providing the majority of the well care, while episodic/acute care was provided in emergency rooms.

As late as 1990, only 45 percent of children on Medicaid had seen a primary care provider in the last year. Believing that every child deserves a medical home, maternal and child health leaders from DHEC sought support from the State Medical Association, the pediatric community through the CATCH (Community Access to Child Health) initiative, and the state Medicaid agency to develop a strategy to address this crisis.

Recognizing that private and public sources of health care have complementary expertise, public health leaders offered private physicians the opportunity to enter into a partnership with the health department. The medical practice would be responsible for the medical care, and the health department would augment that care by providing links to supportive services throughout the community. These traditional public health services go beyond medical care to enhance the

*The percent of Medicaid children from birth to 3 years old who have seen a primary care provider in the last year has increased from 45 percent in 1990 to over 84 percent in 1998 thanks to partnerships.*

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likelihood that families will access and use medical care appropriately. These services link people to needed personal health services and assure the provision of health care when otherwise unavailable.

Four willing partnerships served as pilots for this initiative. Each partnership was uniquely tailored to meet the needs of that community. A part-time public health nurse practitioner and a full-time public health Medicaid case manager work out of Dr. Jones’ office and have allowed him to increase the number of Medicaid children his practice sees. These early partnerships were so successful that in 1993 Robert Wood Johnson funded a Reach Out grant to spread the word about the opportunities for partnerships statewide. By the end of the grant (1997), the four original partnerships had grown to 54 model partnerships across the state. South Carolina now has 90 formal partnerships that promote the medical home concept for children.

The impact has been tremendous. The percent of Medicaid children from birth to 3 years old who have seen a primary care provider in the last year has increased from 45 percent in 1990 to over 84 percent in 1998.

**Mobilizing community partnerships and action to identify and solve health problems along with linking people to needed personal health services are essential services of public health.**

## Children Birth through 14

## ***Children birth through 14***

### ***Immunizations stop infection spread***

Recently, a 10-year-old girl and her family interrupted a trip south to visit the pediatric clinic at a prominent children's hospital in the South Carolina Upstate. After several hours in the busy waiting room and in the clinic, she was diagnosed with a fever of uncertain origin. The next day, the lab anxiously called in the preliminary test results: She might have the serious viral infection **measles**.

The United States (and South Carolina) have almost eliminated measles in the past five years. With more than 90 percent of children receiving two doses of measles vaccine, America is down to only a few hundred cases every year (mostly "imported" cases acquired overseas by unvaccinated children) instead of the 2 million plus reported as recently as the 1960s. Because of our very high vaccine coverage, South Carolina is doing even better and has not had a single case of measles acquired within our state in the last six years.

Natural measles can make children very sick and causes about one death and an additional one case of brain damage for every 1,000 children infected. It is also one of the most infectious viruses known for unimmunized persons. Even when only one in 50 persons exposed to a case is susceptible, the measles virus can find that person and begin an outbreak. The vaccine is about 97 percent effective, so exposure to a measles case is a great concern. And the girl in the waiting room had unknowingly exposed dozens of people, some of them with chronic illnesses.

The DHEC health district epidemiology team learned of the case late in the day. In 10 days any susceptible children in that hospital clinic would come down with measles themselves and begin a chain reaction that could spread measles across the state. The team had three tasks: first, to verify the diagnosis with the State Laboratory; then to find everyone who had been in the same room with the little girl and determine their vaccination status and susceptibility; and finally, to deliver the correct preventive intervention to each of those exposed persons. Immune globulin would be given to the most susceptible, those not fully immunized would be vaccinated, and others for whom prevention would not be effective would be isolated. And every person had to be tracked and checked

every other day for signs of an early case of measles, which would require immediate isolation.

The team mobilized and identified the adults and children who had been exposed that day. Some were fully immunized, according to doctors' records, and some needed additional preventive treatment. Many had to be tracked, and/or isolated. People also were found who had been exposed at locations outside the hospital; in a motel and restaurant. All exposed persons were monitored daily, and local physicians' offices were alerted to watch for new cases.

Not a single new case appeared as a result of that imported case in the next month. The state's perfect record remained unbroken. There were three reasons why:

- The hospital staff recognized the possibility of measles early and reported it immediately to their local DHEC office. The system of timely acute disease reporting to DHEC worked.
- The DHEC Epidemiology Team investigated immediately and identified and treated the exposed children promptly, early enough to abort any secondary cases in them.
- Perhaps most important was the very high coverage rate of two doses of measles vaccine in the children in that clinic, and the resulting small number of susceptible persons there, that stopped further cases. Current school and day care center immunization laws and the alertness of clinicians who daily remind their patients to get their baby shots on time averted an outbreak.

**This incident shows the essential public health functions of monitoring a community's health status to identify health problems, diagnosing and investigating health problems in the community and enforcing laws and regulations that protect health.**



## ***Summary Findings for Children birth through 14***

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### **Motor vehicle crashes:**

Motor vehicle crashes are the leading unintentional injury killer and disabler of children over the age of 1. South Carolina's death rate due to motor vehicle crashes for children from birth to age 14 has made little progress over the last 10 years.

### **Fatal injuries:**

Both the fire-related death rate and drowning-related death rate for children from birth to age 4 have improved. Intentional injuries in South Carolina are becoming more of a problem. The homicide rate for children from birth to age 3 in the state is higher than the nation's, and this rate is increasing. Although aggravated assault is far more likely to occur than homicide, both represent the tip of the iceberg of child abuse and neglect.

Black and Other children are the most vulnerable in this population. Black and Other children face more deaths from car crashes, fire mishaps and homicides and are assaulted more often than White children. The death rate for Black and Other children from motor vehicle crashes continues to worsen. The gap is narrowing, however, in fire death rates. Drowning among Black and Other children is fluctuating over time with only slight improvement seen among Black and other males. Tragically, Black and Other children face almost three times the rate of death from homicide as Whites, and it's getting worse.

### **Chronic Conditions:**

Chronic conditions in children challenge their growth and development. In South Carolina, 183,000 children have at least one chronic condition, 20,000 of these children are uninsured, 11,000 are without a usual source of health care, 33,000 were reported as dissatisfied with one or more aspects of care received at their usual source of care, and 24,000 had one or more unmet health need in the past year. The hospitalization rate of children from birth to age 19 is changing by type of condition, although most decreased during the last two years.

### **Childhood Immunizations:**

Immunization is the most powerful and cost-effective method of preventing serious childhood infections. Between 1993 and 1996, the percentage of South Carolina 2-year-olds receiving a complete set of standard immunizations rose from 62 percent to 91.8 percent. In 1999, immunization coverage of 2-year-old children was reported at 89 percent. Since 1995, there has not been a single case of measles acquired by a child in South Carolina due to our high vaccine coverage and rapid response to cases imported from outside. The *Hemophilus influenzae* type b bacterium caused close to 100 cases of meningitis in children under 3 years old every year until the early 1990s, when the new conjugate vaccine began to be delivered in DHEC clinics and doctors' offices. Since then, meningitis in children from this bacterium has almost disappeared. In 1999, there were only two cases reported. Since 1994, the hospitalization rate for chicken pox in young children has decreased slowly because of the increased use of vaccine, but there are still several hundred admitted each year because of this seemingly "mild" infection.



## *Teenagers 15 through 19*

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These years are tremendous times of change. Teenage bodies and minds are developing rapidly; basic education nears completion, and talk of leaving home may enter conversations. They are learning to love people outside their family circle. They are developing friendships that will last a lifetime. They are becoming independent and making more of their own decisions.

Along with increasing freedom and independence come the consequences of making choices. Most teens choose challenges that hone personal development, academics, athletics, faith, vocation and friendships. Some make choices with consequences of illnesses, pregnancy, disability and death.

What is the health status of South Carolina's teenagers? This section presents five major health problems including the leading causes of death, hospitalization and disability: motor vehicle crashes; violence including homicides and assaults; suicides; pregnancy; and substance abuse.

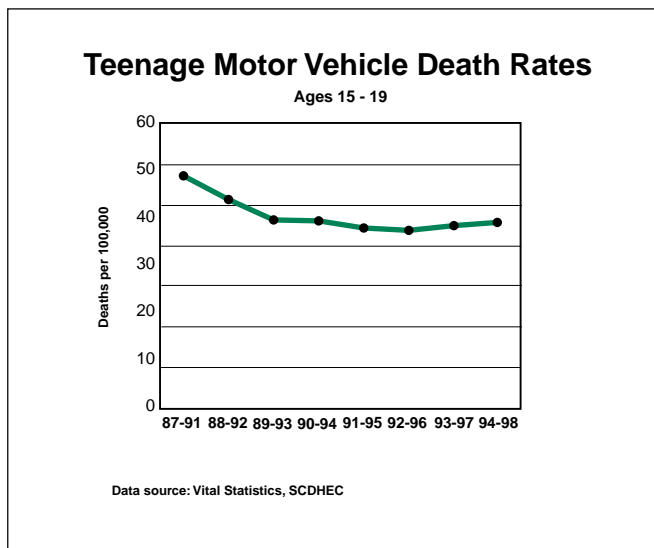


## Motor vehicle crashes

Learning to drive a car is a milestone that gives teens autonomy and freedom and gives parents nightmares. Statistics tell us why this is such a stressful time in a parent's life: Motor vehicle crashes are the leading cause of death and disability of children ages 15 through 19. Injuries resulting from motor vehicle crashes are also one of the leading causes of hospitalization.

People sometimes refer to these as accidents. These crashes, however, are not random events. They are often predictable and preventable. Most of the deaths among teens from motor vehicle crashes are related to alcohol, substance abuse, high speed, cruising and not using seatbelts. Consequently, many young people are losing their lives before they reach their productive years.

Fig. 3.1a



- The motor vehicle-related death rates among South Carolina teenagers ages 15 through 19 form a decreasing trend, overall, for the period of 1987-1998.

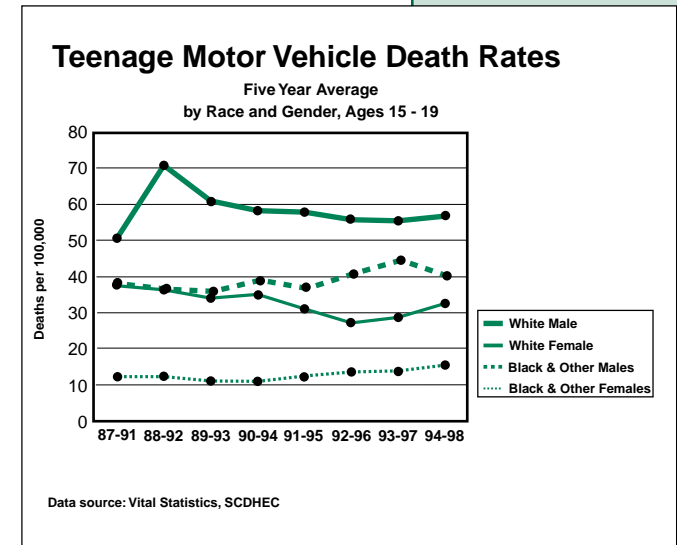
- There was a worsening trend from 1994 through 1996.

These death rates create a different picture when reviewed by race and gender.

- White males are worse off than all other groups. This group has consistently had the highest death rates since 1986.
- The rates for Black males have been higher than for White females during the 1987-1998 period, causing these groups to juggle the second and third place although they initially were the same.
- The rate for Black males has climbed since 1992, placing them second worst at a current rate of 40 deaths per 100,000 teenagers.
- Black females have consistently had the lowest rate since 1987 and have a current rate of 15 deaths per 100,000 teens. The gap between Black males and White males has narrowed as has the difference between Black females and White females.

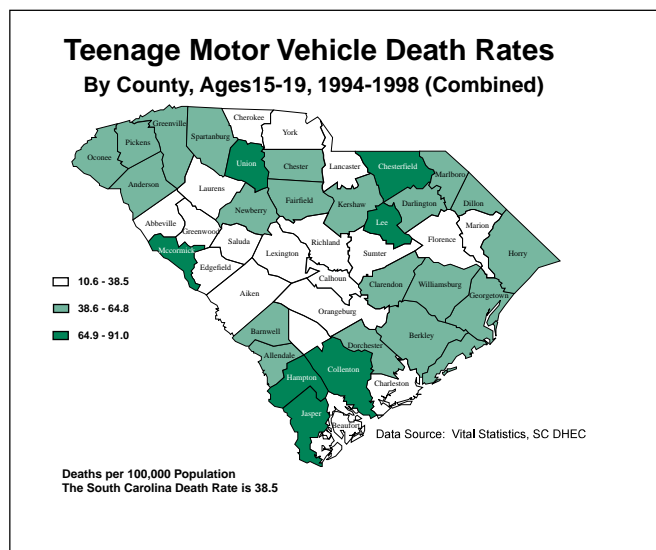
## Teenagers 15 through 19

Fig. 3.1b



## Teenagers 15 through 19

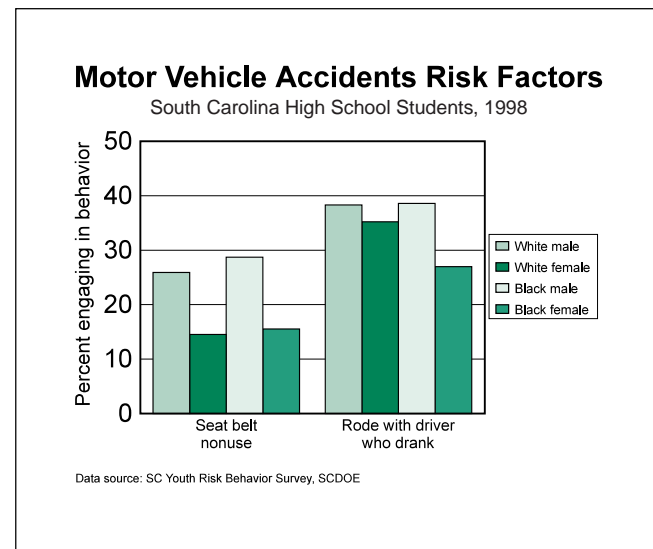
**Fig. 3.1c**



The death rates for teens vary widely depending on the county of residence (Fig. 3.1c). The rates in some counties are more than five times higher than in other counties. The rates in counties with large cities may be low because of high population density. On the other hand, the number of deaths occurring in some counties may be small, and some of the differences by county could be due, largely, to fluctuations in these small numbers.

Based on the 1997 *Youth Risk Behavior Survey*, one in four high school students (25.3 percent) never or rarely use a seatbelt. Current seatbelt use in the state is almost identical to what it was in 1995 among all groups. The risk, however, among Black females has slightly increased. Nearly four in 10 students (38 percent) rode in a vehicle within the last 30 days driven by a student who had been drinking alcohol (Fig. 3.1d). Both rare use of seatbelts and riding with a drinking driver are more frequent among South Carolina high school students than for students nationwide: 22 percent and 39 percent, respectively. Although these factors don't necessarily explain the differences in death rates by race and gender, these behaviors clearly contribute to motor vehicle-related death and disability.

**Fig. 3.1d**

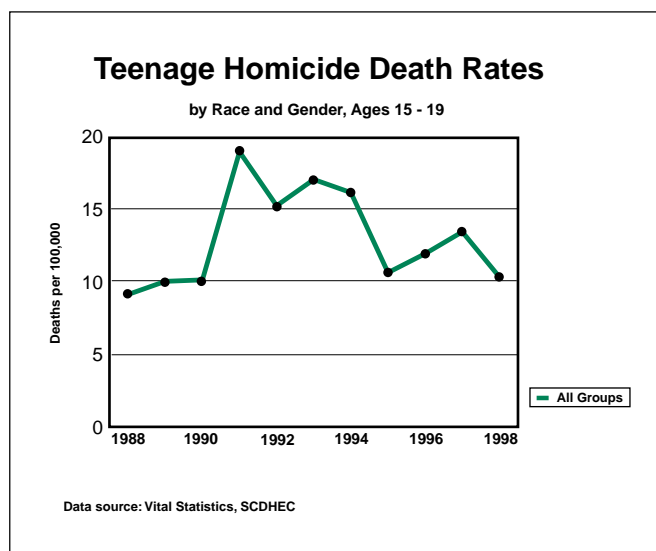


## Homicides, Assaults

Once upon a time, playing with toy guns and knives was just a children's game. Today, some children progress from toy weapons to real ones, and, all too often, the games become deadly.

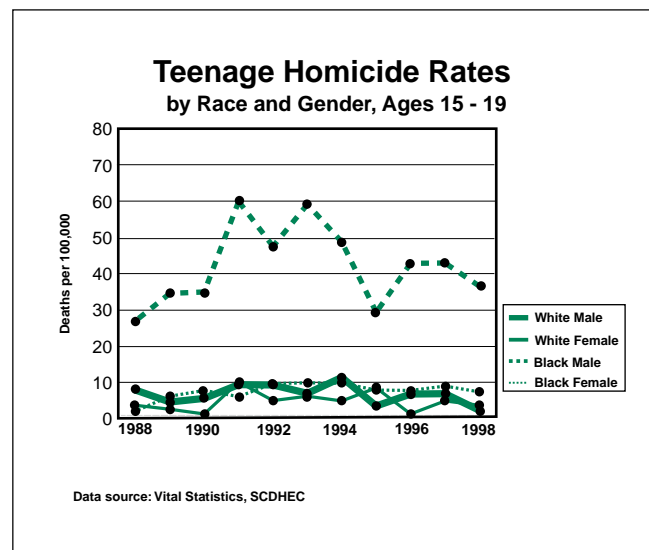
Homicide is the second leading cause of death for teens 15 to 19 in South Carolina. In 1998, there were 10 deaths per 100,000 teens ages 15 to 19 (Fig. 3.2a). Assaults are a frequent cause for hospitalizations. Homicides and assaults are preventable, but the preventive approaches are both challenging and controversial.

**Fig. 3.2a**



Guns, the most common weapon used in homicides, account for two out of three deaths. The homicide rate in the state varies greatly by race and gender (Fig. 3.2b).

**Fig. 3.2b**

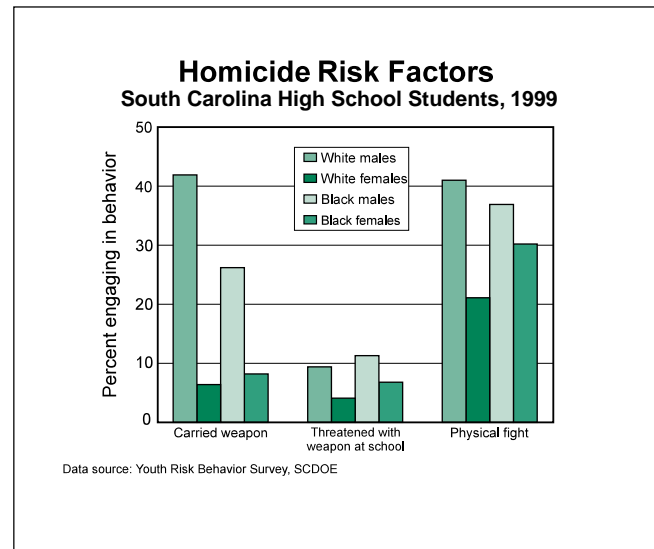


- In some years, the homicide rate among Black male teens has been six times higher than the rates for other race and gender groups.
- Over time, the homicide rate for White males, White females and Black females has fluctuated, but has only slightly increased.
- Black males, however, have experienced an epidemic of violence. From 1985 to 1991, the homicide rate increased threefold for Black male teens to nearly 60 deaths per 100,000 teenagers.
- This epidemic may be decreasing. In 1995, the homicide rate decreased substantially, but rose slightly for the next two years of 1996 and 1997.

## Teenagers 15 through 19

## Teenagers 15 through 19

Fig. 3.2c



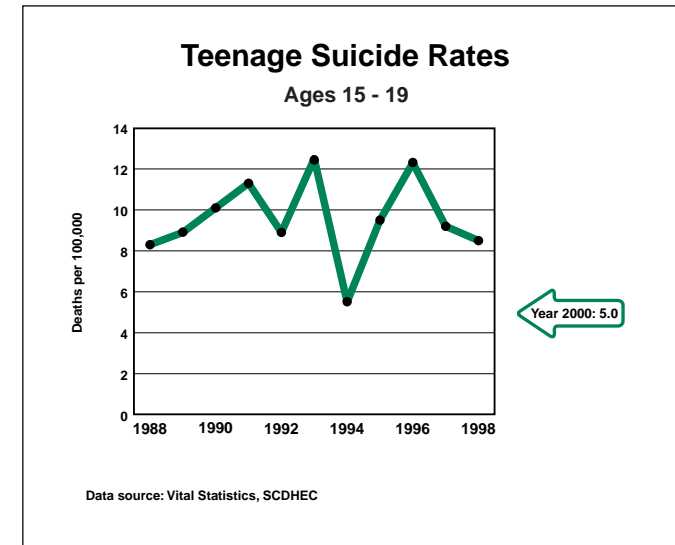
Based on the 1999 *Youth Risk Behavior Survey*, behaviors that contribute to homicides among high school students in South Carolina are also alarming, especially among males (Fig. 3.2c). When asked whether they had carried a weapon in the past 30 days, 36 percent of the high school male students said they had carried a weapon, compared to 9 percent of female students. One in nine male students (11 percent) were either threatened or injured with a weapon in the past year at school. Of every 10 male students, four (40 percent) had been in a physical fight in the past year. Although these behaviors don't necessarily explain the differences in death rates by race and gender, these behaviors contribute to violence and possibly death.

## Suicides

When a child is born, parents develop many expectations for him or her: to walk, to talk, to go to school, to fall in love, to get a job and to marry. But parents' hopes are sometimes shattered by the unexpected — suicide.

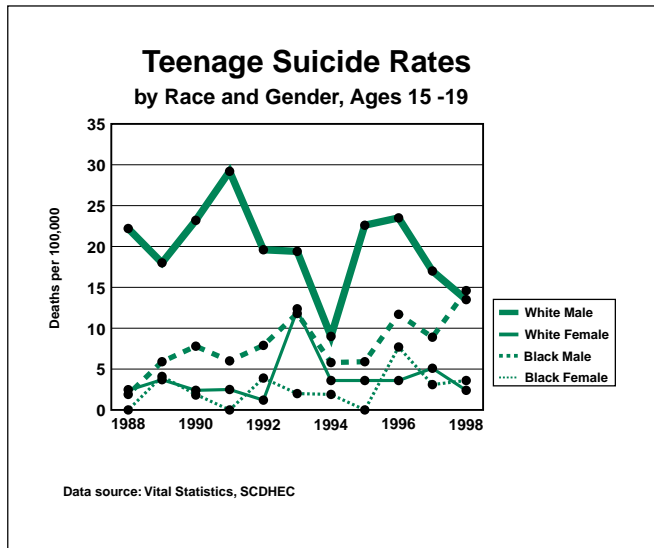
Suicide is the third leading cause of death among teens 15 through 19 in South Carolina. Unlike homicides, attempted suicides do not usually end in hospitalization. Suicides are preventable, but challenging. At-risk children can be identified and provided adequate preventive therapy. Suicide clusters can be stopped. Guns are the most common successful method for suicides and account for almost three out of four deaths.

Fig. 3.3a



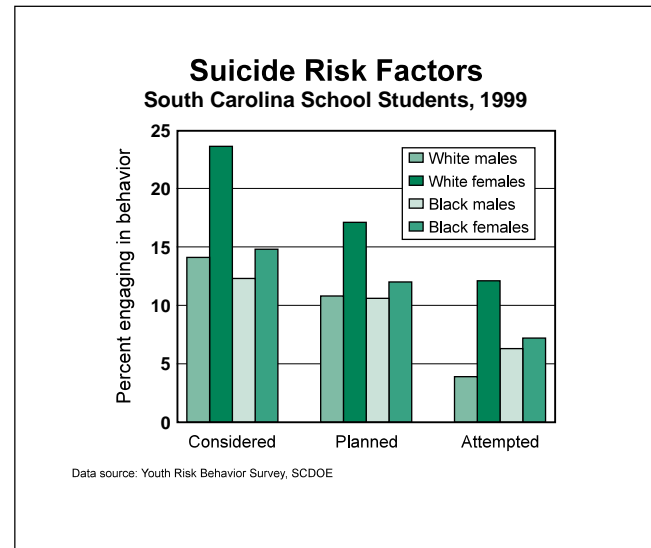
- The suicide rate in South Carolina fluctuates from year to year. There has been a slight downward trend, but the state rate is slightly higher than that for the nation. Given this slow decline, the state's rate will not likely reach the **Healthy People Year 2000 Objective** of five per 100,000 without new efforts.

Fig. 3.3b



- The suicide rate varies by race and gender. The rate for White males is roughly four times the rate for other groups. The suicide rate for all teens has been increasing steadily for the past decade, except for White males.

Fig. 3.3c



- The rate of planning and attempting suicides is higher among females than males (Fig. 3.3c). Based on the *1999 Youth Risk Behavior Survey*, one in six high school students (17 percent) in South Carolina had thought seriously about attempting suicide over the past 12 months, one in eight students (13 percent) made a suicide plan, and one in 12 students (8 percent) attempted suicide. White female students were the highest risk group, followed by Black females. The frequencies of these behaviors in the state are similar to that for the nation, but show no sign of improvement.

## Teenagers 15 through 19

## Teenage Pregnancy

Having and raising children is a major challenge and responsibility for a parent. When a child has a child, the task becomes even more daunting. Experts estimate that the combination of lost tax revenues and increased spending on public assistance, child health care, foster care, and the criminal justice system totals about \$7 billion annually for births to the nation's teens.

In South Carolina, one in five teenage girls will become pregnant before her 18th birthday. A teen pregnancy increases the likelihood of infant death, low birth weight, slow infant development, and child neglect and abuse. For the teen mother, the pregnancy frequently stops or slows her formal education, limits her ability to earn an income, and can make her dependent on public support.

Fig. 3.4a

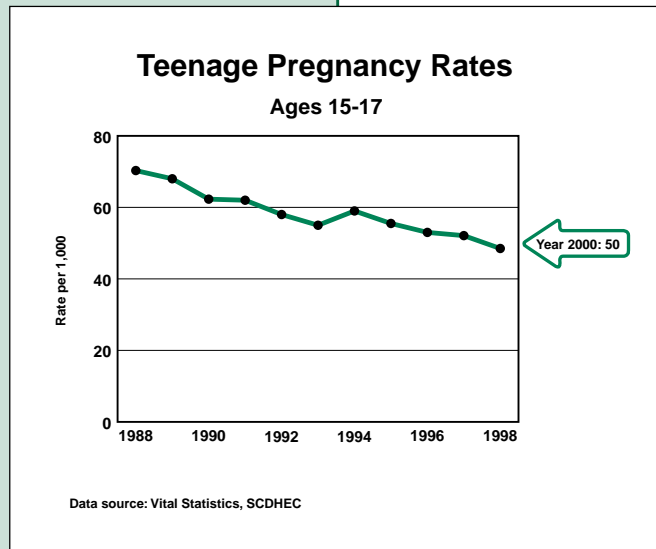


Fig. 3.4a

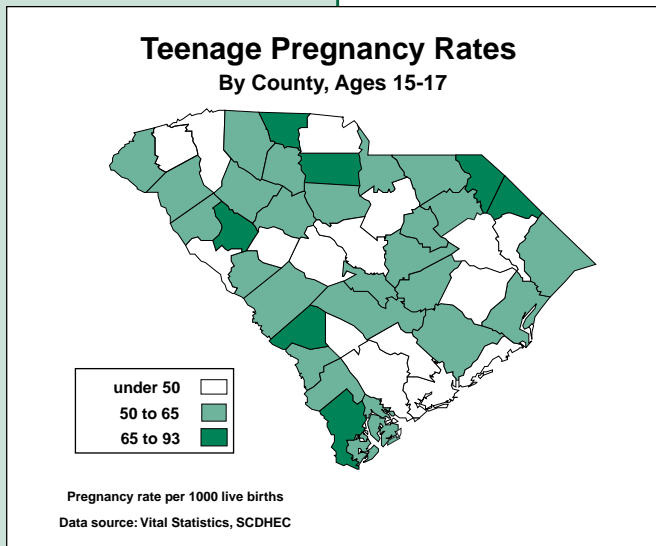


Fig. 3.4c

Fig. 3.4b

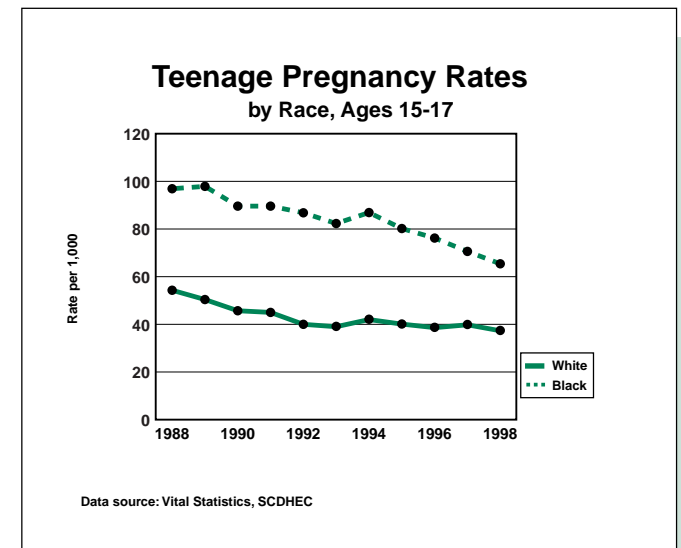


Fig. 3.4b

Fig. 3.4c

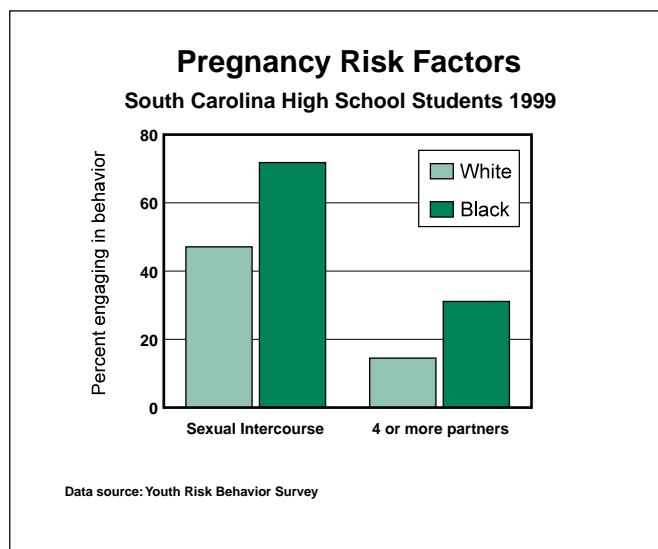
- Even though South Carolina has one of the highest teen pregnancy rates in the country, the pregnancy rate for women 15 to 17 years of age is improving. With a decline in live births and induced abortions since 1988, it is possible for the state to reach the **Healthy People Year 2000 Objective** of 50 pregnancies per 1,000 teenage females 15 to 17.

- The teen pregnancy rate also varies by county, with higher rates in more rural counties than urban.

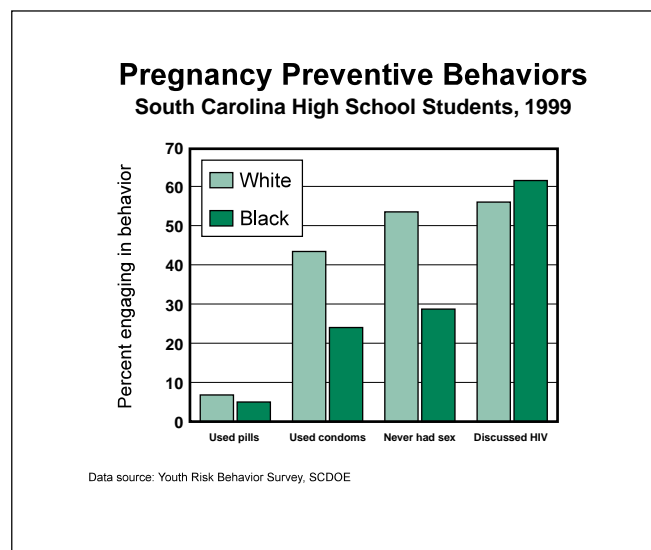
- The teen pregnancy rate varies by race. In 1998, the pregnancy rate for Black teenagers was slightly less than twice the rate for White teenagers.
- Although the pregnancy rate has improved for both race groups, the gap between Blacks and Whites remains wide.



**Fig. 3.4d**



**Fig. 3.4e**



Based on the *1999 Youth Risk Behavior Survey*, the frequency of sexual encounters raises concerns (Fig. 3.4d). Two in three high school students (58 percent) in South Carolina have had sexual intercourse; less than one in four students (22 percent) have had sexual intercourse with four or more people. Although these percentages have improved slightly since 1995, the percentages of sexual encounters in South Carolina are higher than the percentages for the nation. These high frequencies leave our teenagers at high risk of teen pregnancy, HIV infection and other sexually transmitted diseases. A new statewide screening program that reached full scale in January 1997 in DHEC family planning clinics revealed that 12.2 percent of 1,000 girls 15-19 were infected with chlamydia. In 1998, this rate decreased to 12.1 per 1,000 teenage girls.

High school students are using some prevention methods, according to the *1999 Youth Risk Behavior Survey* (Fig. 3.4e). Of the students currently sexually active, 61 percent said they used a condom during their last sexual intercourse compared to 57 percent in 1995. The risk factors for pregnancy are more prevalent among Black teens than their counterparts.

About one in eight students (13 percent) who are currently sexually active use birth control pills.

Education has been a focus of prevention, especially targeted toward families. In 1999, 88 percent of high school students report that they had been taught about HIV/AIDS infections in school, a percentage that has substantially increased since 1991. But only 65 percent of students have ever talked about HIV/AIDS with their parents or families, and this percentage appears to be decreasing.

## Teenagers 15 through 19

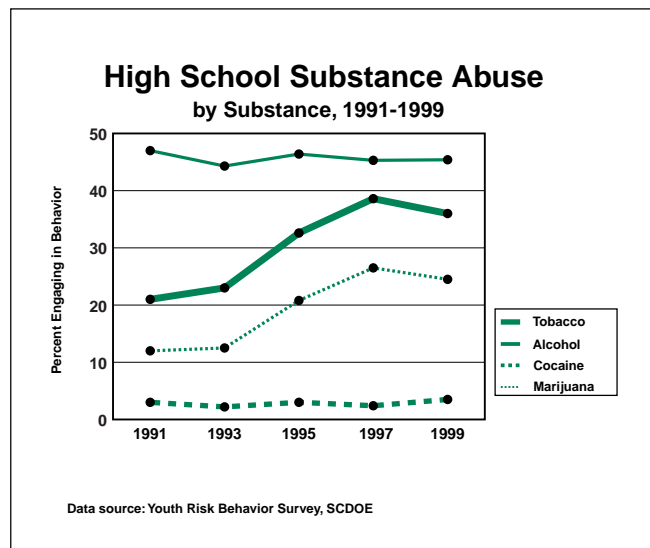
## Teenagers 15 through 19

### Substance Abuse

For more than a decade, schools have focused health education at every grade level on the dangers of tobacco and substance abuse. However, recent trends suggest that health education may not be enough.

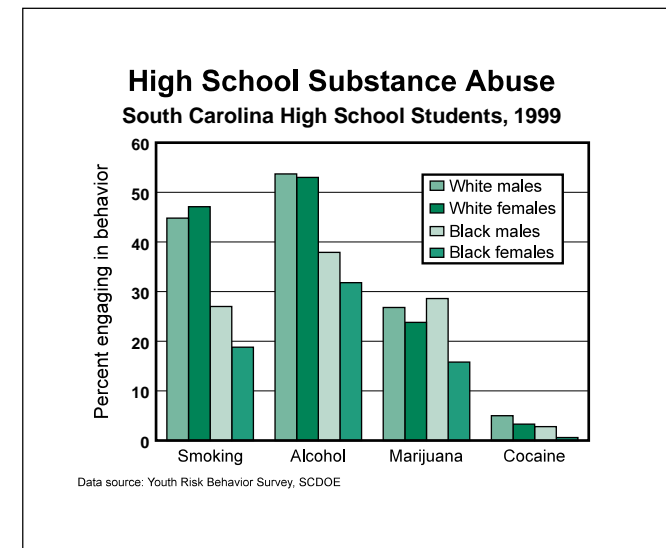
Based on the 1999 *Youth Risk Behavior Survey*, the percentage of high school students in South Carolina using or abusing substances — tobacco, alcohol, marijuana and cocaine — in the last 30 days varies by type of substance.

Fig. 3.5a



- Alcohol is the preferred substance, with nearly half (45 percent) of high school students having used it in the last 30 days. Tobacco use (36 percent), marijuana (24 percent) and cocaine (3.5 percent) are next. These percentages are all lower than the percentages for the nation's high school students. The percentage of students who use cocaine has increased. Other substance abuse behaviors have improved, but only slightly.

Fig. 3.5b



- More than 45 percent of both White male and White female students smoke cigarettes. Alcohol use is most common with White males, followed by White females, Black males and Black females. Males, both White and Black, are more likely to use marijuana, followed by White females. While the percentages for cocaine use are lower than for other substances, their patterns are similar to alcohol use among teens.

The slight decrease in cigarette smoking is not statistically significant, but is a step in the right direction. The recent trend, however, represents behavior among those who have used tobacco and/or marijuana, not necessarily regular users. Since most adults who smoke started as teenagers, the increase suggests that the percentage of adult smokers may start to increase after a decade of improvement.

Smoking increases the risk of low birth weight babies for pregnant women, SIDS (Sudden Infant Death Syndrome) and infections in infants, as well as cancer and heart disease in adults. The percentage of current use also varies by race and gender (Fig. 3.5b).

## Teens learn to avoid pregnancies

The Dillon High School student wants to be a marine biologist. She doesn't want an unwanted pregnancy or a disease to interrupt her goals. So she participates in a program that encourages and supports her decision to remain abstinent.

"There are all kinds of diseases and things out there, and it's not right ... it's better to wait" for a sexual relationship, she believes. And she knows she won't let peer pressure or pressures from a boyfriend change her mind. "If he wants to go with me just for that, then I'd rather be by myself cause I don't need that."

She participates in the It's Okay To Wait program in the Pee Dee, which promotes teen abstinence through direct school-based instruction and through media messages. It targets children ages 10-19 and teaches them how to resist pressures to engage in sexual intercourse within a social and community climate that encourages abstinence.

Infants born to teen mothers are less healthy, have lower birth weights, and face a higher likelihood of death. These children grow with health problems, with troubles in school, and are more likely to be abused and neglected.

South Carolina ranked 16<sup>th</sup> highest in the United States in rates of teen pregnancy for 15 to 17 year olds in 1996. Teen pregnancy not only affects the individuals, but also is a burden on society because of the poor outcomes associated with teen pregnancies for the mother, the father, and the child. This burden includes an increase in prison costs, welfare costs, special education costs, medical care costs, and foster care; and decreases in productivity and hence a loss of tax revenues.

Though prevention of teen pregnancy is the best answer, prevention efforts themselves raise health, social, educational, ethical and legal issues. In the last decade in all age groups (10-14, 15-17 and 18-19 years), there was a drop in the rates of both estimated pregnancies and abortions. The rates were higher among non-Whites than among Whites. This decrease in the overall rates may be due to many programs that address teen pregnancy prevention. Many educational programs throughout the state cover a range of topics from

*The risk of a poor pregnancy outcome is higher for teen mothers. Infants born to teen mothers are less healthy, have lower birth weights, and face a higher likelihood of death. These children grow with health problems, with troubles in school, and are more likely to be abused and neglected.*

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abstinence, STD/HIV prevention programs and parenting programs for parents and their children that encourage parent-child communication on sexual topics.

The South Carolina Comprehensive Health Education (CHE) Act, passed in 1988, requires students to receive reproductive health, pregnancy prevention and STD/HIV education as a part of their health education program. Since implementation of this law, the percentage of sexually active teens has gone down by 20 percent, condom use by sexually active teens has increased by 60 percent, and pregnancy numbers and rates for teenage girls have declined by 31 percent.

**These activities show the public health roles of informing, educating and empowering people about health issues; mobilizing community partnerships and action to identify and solve health problems; and enforcing laws and regulations that protect health and ensure safety.**

**Teenagers  
15 through 19**

## ***Summary Findings for Teenagers 15 through 19***

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### **Motor Vehicle Crashes:**

Motor vehicle crashes are the leading cause of death and disability among teenagers and one of the leading causes of hospitalizations. The death rate in South Carolina is higher than the national rate and, in recent years, the rate has been slowly increasing. Alcohol, speed, substance abuse, cruising and not using seat belts are major contributors.

### **Homicides:**

South Carolina has experienced an epidemic of homicides over the last decade, with deaths among Black males increasing to more than five times higher than other teenage groups. The 1997 death rate for Black males suggests this epidemic may not be improving, but it improved slightly in 1998. Furthermore, violence continues to be high among male teens.

### **Suicides:**

The suicide rate in South Carolina has been improving slightly, but fluctuates from year to year. Males are at greatest risk, with guns being the weapon of choice. Of more concern is the frequency with which high school students deal with suicide: One in six has considered it, one in eight has planned it, and one in 12 has attempted it. The situation over time is getting worse.

### **Teen Pregnancy:**

In South Carolina, more than one in five girls will become pregnant before her 18th birthday. These children having children adversely affects the lives of both the infant and mother. Although the teenage pregnancy rate and the rate of sexual activity have been improving, many sexually active teenagers in South Carolina are at risk of pregnancy, HIV infection and sexually transmitted diseases.

### **Substance Abuse:**

Alcohol is the preferred substance, with nearly half (45 percent) of high school students having used it in the last 30 days. Cigarette smoking (30 percent), marijuana (24 percent) and cocaine (3.5 percent) are next. These percentages are all lower than the percentages for the nation's high school students. The percentage of students who use cocaine has increased. Other substance abuse behaviors have improved, but only slightly.

## Young Adults 20-44

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Young adulthood is the first time when most people are truly on their own, and it is the time when most of their critically important life decisions are made: marriage, career, having children. But other vital decisions are made and habits formed during these years, too: cigarette smoking, drinking to excess, sexual behavior, exercising or not, dietary choices, safe driving and wearing seat belts: All these critical influences on our health and how long we will live seem to be almost permanently determined in our late teens and early 20s.

In the early and middle years of this century public health was already dealing with some of the themes that still harm our public's health in the year 1999: For example, it was discovered during 1916-1918 that more than 10 percent of young men drafted were infected with syphilis or gonorrhea. Tuberculosis was the number one cause of death. As late as the 1940s garbage was commonly dumped on fields just outside our city limits, and raw sewage was poured into our rivers. Unintentional injuries, homicide and suicide had not yet been recognized to be the major cause of lives lost in young adulthood.

Some of the diseases that afflict persons in this age group cause the greatest disparities in health status by race in our state: For example, the incidence rates of new cases of syphilis or of HIV/AIDS are close to 10 times higher in African-Americans as in Whites. Being a victim of homicide is about five times more likely in Black men. On the other hand, young Black men and women are less likely to smoke cigarettes or to commit suicide. But there is much work to do to reduce the health disparities in the Young Adult age group in South Carolina.



## Young Adults 20 through 44

### HIV/AIDS

AIDS (Acquired Immune Deficiency Syndrome) is among the most feared diseases in this age group. Revolutionary treatment of HIV with antiviral drugs has led to a striking downturn in the incidence of new AIDS cases. But there has been little decrease for the risk group with multiple heterosexual partners, which is the group that includes many women likely to become pregnant and increase the risk of HIV infections for their newborns.

Fig. 4.1a

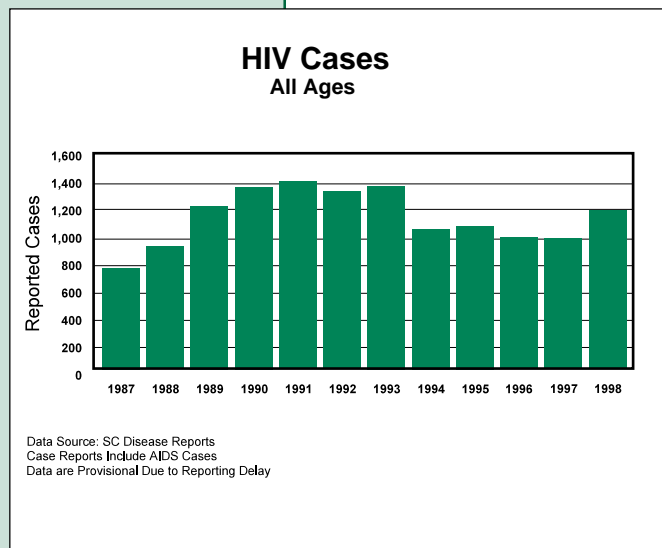


Fig. 4.1a

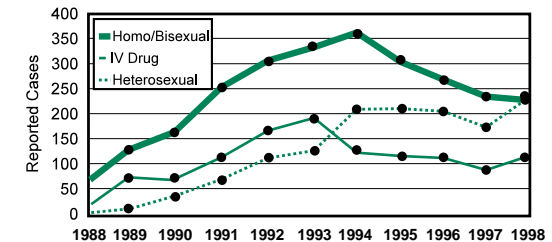
- The number of new cases per year of HIV/AIDS fell steadily after its peak in 1991 until 1997, but appears to have leveled off. New cases rose slightly in 1998 again, probably as a result of a new screening program at the S.C. Department of Corrections.

Fig. 4.1c

- The reported number of persons living with HIV rose in 1998 and continues its steady increase, creating more need for care and prevention services.

Fig. 4.1b

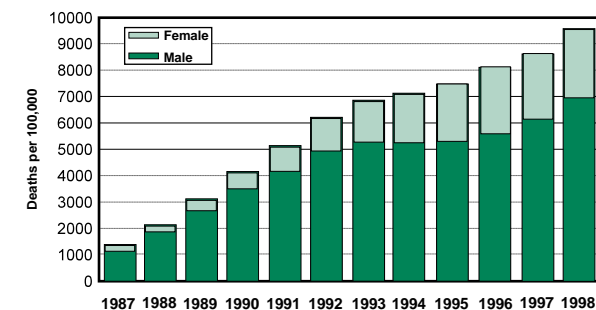
### AIDS Cases by Selected Risk Factor Ages 20 - 44



- The increase in AIDS appears to be occurring in the risk group of heterosexual young men and women with many partners and to a lesser extent in drug users.

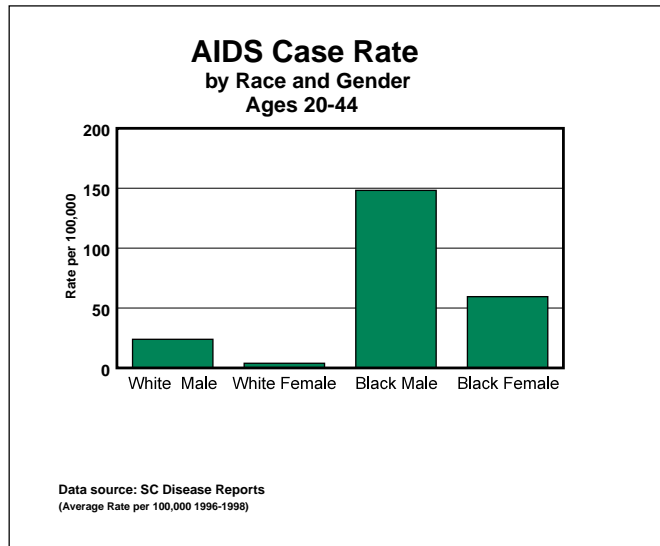
Fig. 4.1c

### HIV Prevalence: Cases Living at the End of Each Year by Sex

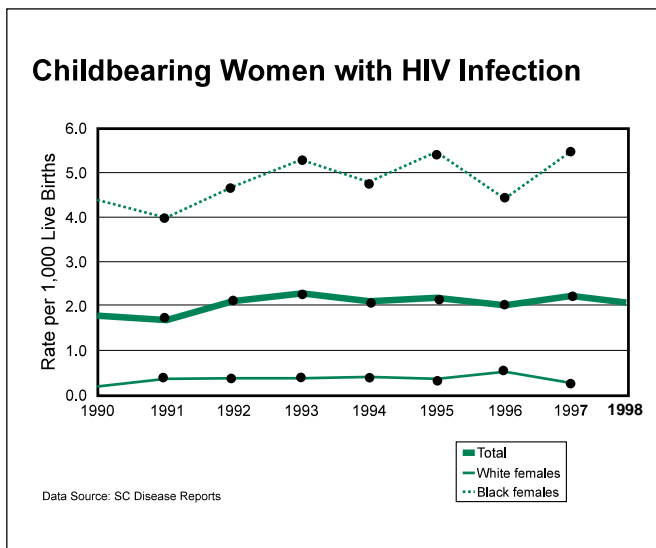


- African-American men remained at the highest risk of becoming infected over the years 1996-98, followed by African-American women.

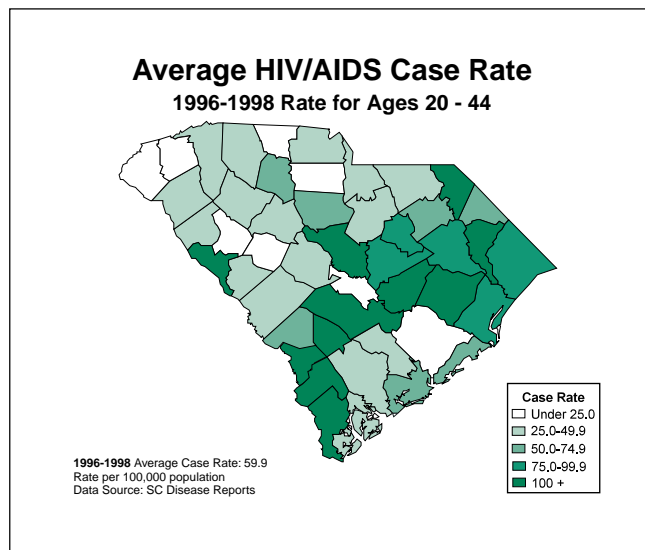
**Fig. 4.1d**



**Fig. 4.1f**



**Fig. 4.1e**



- The highest three-year average risks of infection were not in our urban counties as might be expected, but were in Jasper, McCormick, Marlboro, Allendale and Bamberg, although no county remained unaffected.

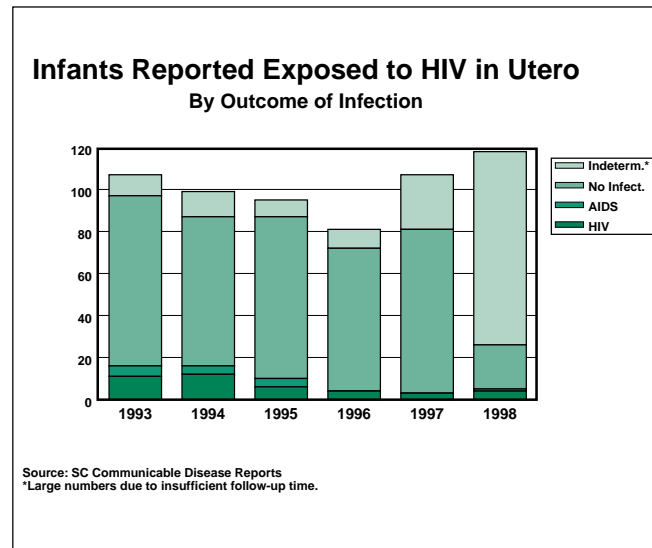
The rate of HIV infection in mothers of newborn infants seems to have held steady since 1990 statewide and by racial group at about two cases per 1,000 mothers (Fig. 4.1f). Although these data were not yet available by race for 1998, the rate has been just about 10 times higher in Black mothers than in White. Proper antiviral treatment of the infected mother before and during delivery and treatment of the newborn baby afterward are about 70 percent effective in protecting the baby from the mother's infection.

## Young Adults 20 through 44



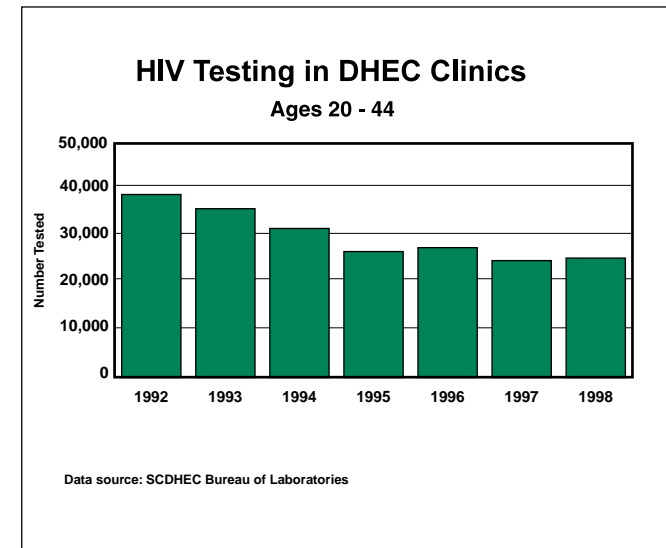
## Young Adults 20 through 44

Fig. 4.1g



South Carolina's program to identify and give preventive treatment to HIV-infected mothers has been relatively successful in reducing the rate of HIV/AIDS developing in their infants (Fig. 4.1g). The high number of "indeterminate" tests in infants in 1997 and 1998 simply reflect the fact that it takes a period of several months of life before an infant's HIV status can be definitively determined.

Fig. 4.1h



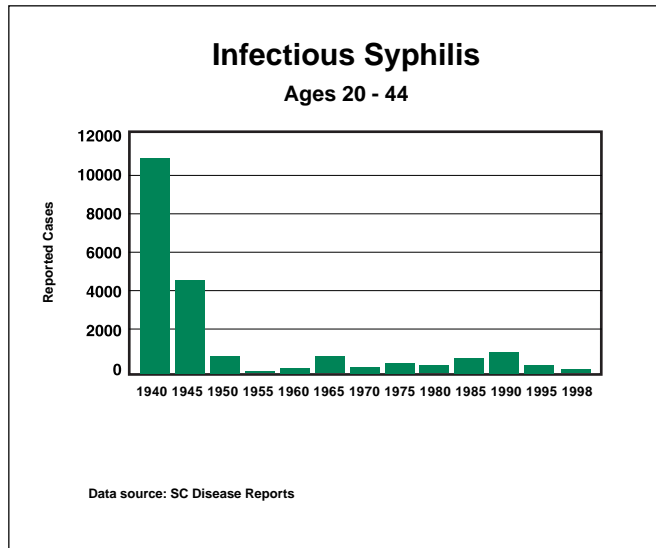
- DHEC clinics have been able to gradually decrease the number of tests done while increasing the percentage of positive tests (yield rate over 2 percent, among the highest in the US), thus increasing efficiency of their HIV/AIDS testing and counseling services.

## Sexually Transmitted Diseases

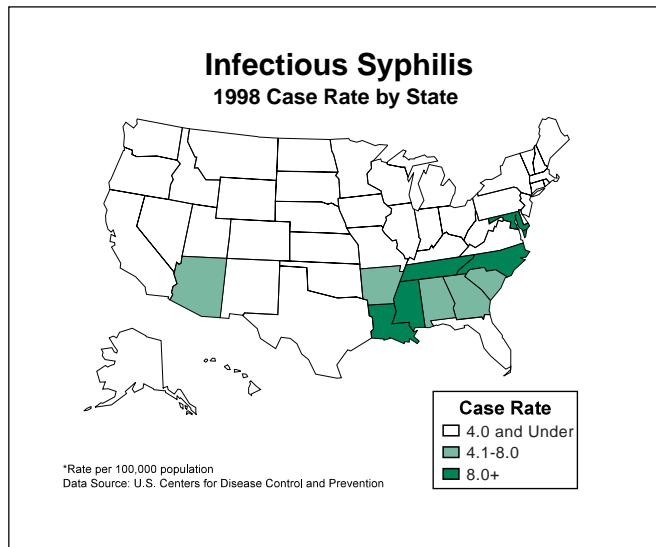
The many different kinds of sexually transmitted diseases in the United States range from vaginitis in women (bothersome, but usually not dangerous) to serious but treatable infections such as syphilis and gonorrhea, to the untreatable and sometimes fatal viruses such as hepatitis B and C, venereal warts (some types cause cancer of the cervix), and HIV/AIDS.

About one in every 14 Americans gets an STD every year. Among young adults, the rate is three times higher than for those over 21. The presence of any other STD increases both a person's susceptibility to getting HIV/AIDS and their potential to infect others with that virus. In 1998, South Carolina ranked first in the nation in the rate of chlamydia, second in gonorrhea, sixth in infectious syphilis, and fifth in new cases of AIDS.

**Fig. 4.2a**



**Fig. 4.2b**

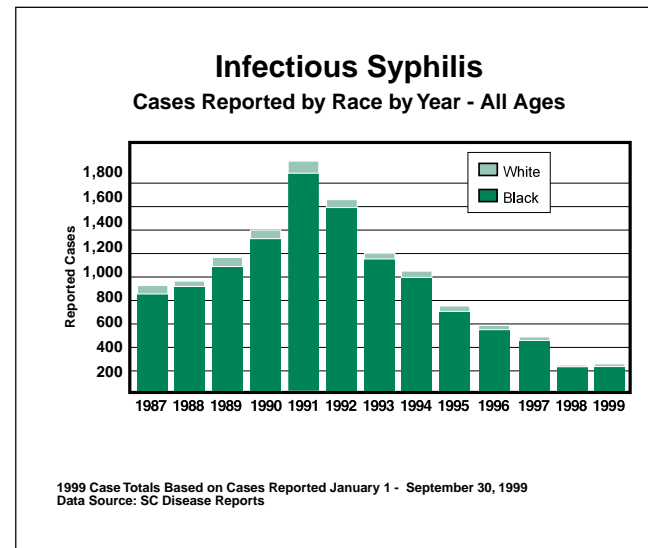


## Syphilis

When untreated, syphilis can cause permanent heart and brain damage in adults and brain, eye or ear damage or death in newborns. South Carolina's rate of new syphilis cases has been falling since the peak in 1991.

In 1998, the state attained the lowest syphilis rate ever reported in South Carolina (Figure 4.2a, 4.2b, 4.2c). These rapidly falling rates in South Carolina, and around the United States, have public health departments planning to eliminate this serious infection completely in the next decade. However, provisional data for 1999 (Fig. 4.2c) shows that this decrease halted in the last year. Special preventive efforts as part of DHEC's new Syphilis Elimination Project will be necessary to force the number of new cases down again in 2000.

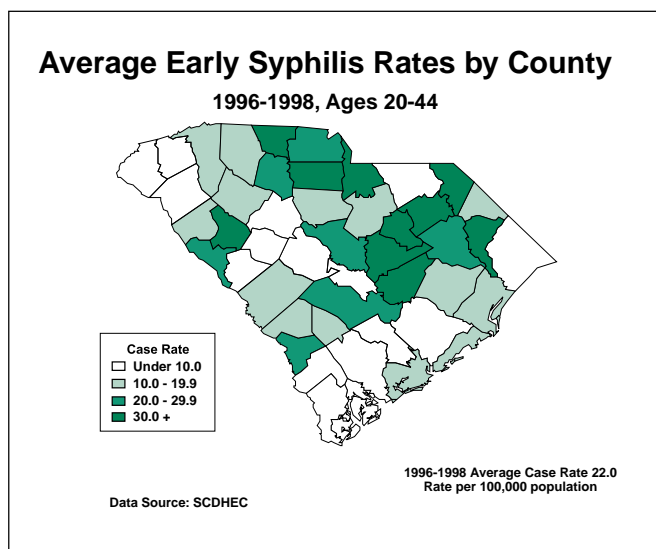
**Fig. 4.2c**



## Young Adults 20 through 44

## Young Adults 20 through 44

Fig. 4.2d

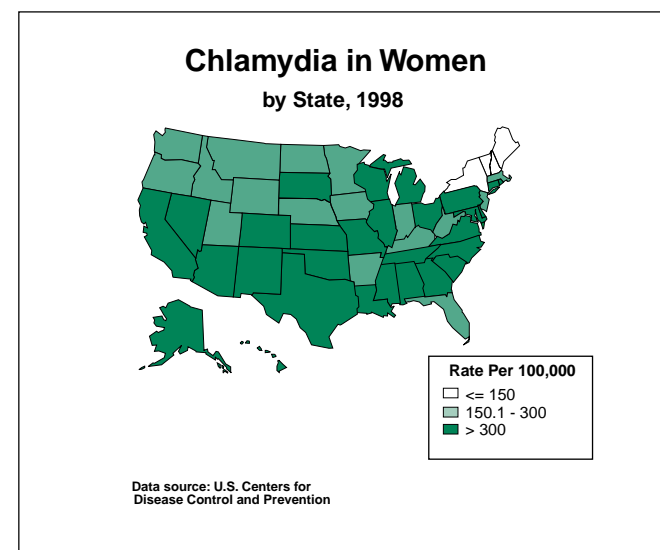


- Syphilis still occurs in many counties. No area of the state predominated; syphilis is a disease of poverty like most STDs. Most cases occur in African-Americans, and most victims live in a few low-income communities. The Syphilis Elimination Project attempts to enlist the citizens of these communities to educate high-risk youth and stop transmission of this preventable scourge.

## Chlamydia, Pelvic Inflammatory Disease

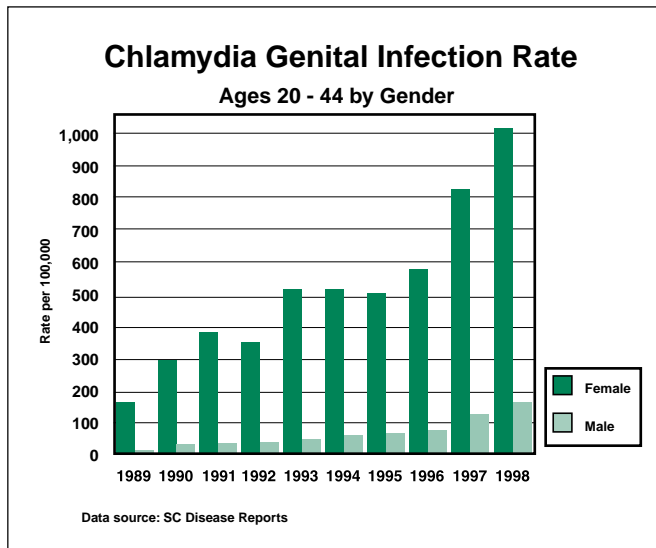
*Chlamydia trachomatis* is the cause of the most common curable STD in the United States. It is the biggest cause of pelvic inflammatory disease (PID) and preventable infertility.

Fig. 4.2e

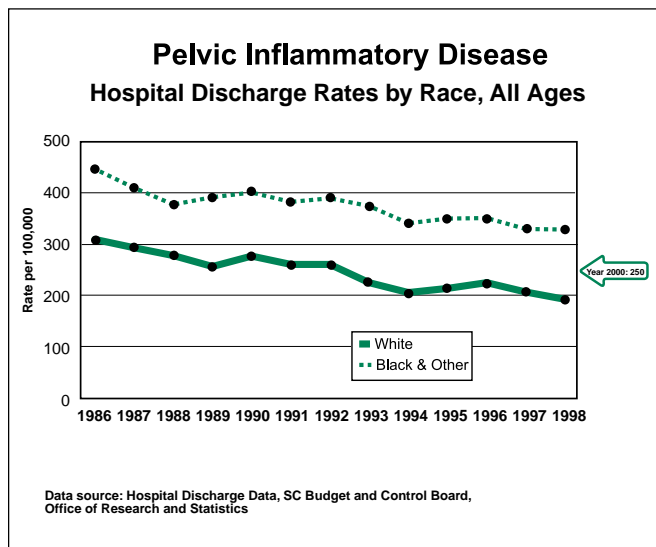


- South Carolina had the highest reported rate of chlamydia genital infection in women in the 50 states. Most Chlamydia infections in women are hidden until they cause serious complications in some infected persons. South Carolina's rate is so high because we have conducted an especially effective screening program directed to young, high-risk women for the last three years with great success in case-finding and treatment. The result has been an increase in the infection rate (Fig. 4.2f). The decrease in pelvic inflammatory disease may be a result of this screening (Fig. 4.2g). There was a profound drop in infections, PID and infertility in the Northwest United States after a similar screening and follow-up program occurred in the early 1990s.

**Fig. 4.2f**



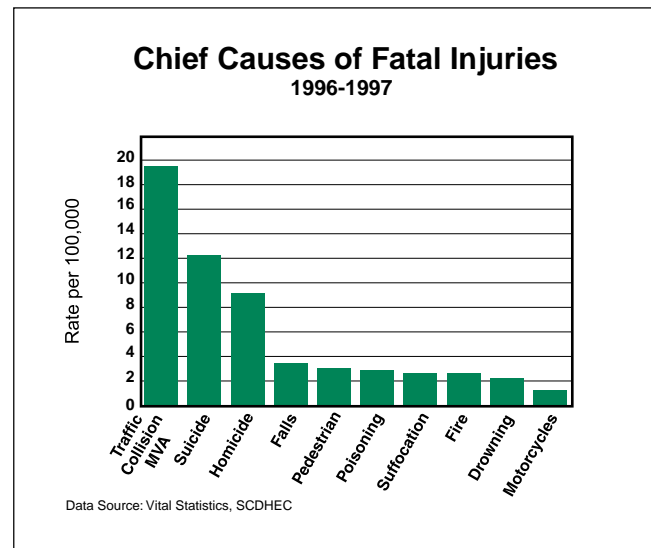
**Fig. 4.2g**



## Injuries

South Carolina has the sixth highest death rate from motor vehicle collisions in the United States. While motor vehicle crashes are easily the largest cause of death, as they have been for decades, suicide and then homicide are not far behind as numbers two and three (Fig. 4.3a). Because these all happen to relatively young people on the average, these three together are a major cause of preventable years of life lost in our state. In both suicides and homicides, firearms are by far the leading method of death.

**Fig. 4.3a**



## Young Adults 20 through 44

Fig. 4.3b

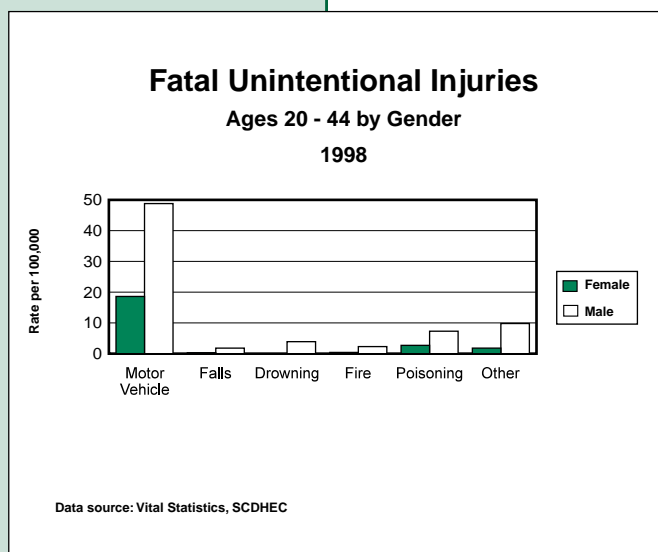
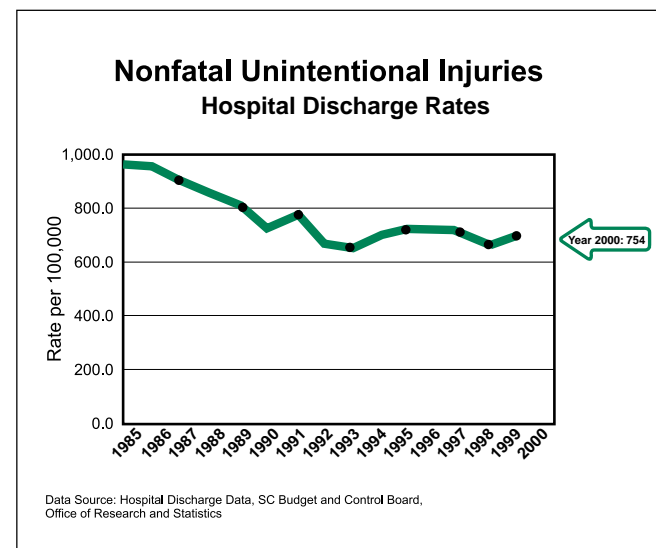


Fig. 4.3b

- Motor vehicle collisions continue to top the six leading causes of death for unintentional injuries in the Young Adult age group. Males are at two-to fourfold greater risk for every cause, and motor vehicle collisions are again by far the leader.

Fig. 4.3d



- A steady decline in all nonfatal “accidental” injuries ended in the early 1990s, and now hospitalizations for unintentional injuries have reached a plateau (Fig. 4.3d).

Fig. 4.3c

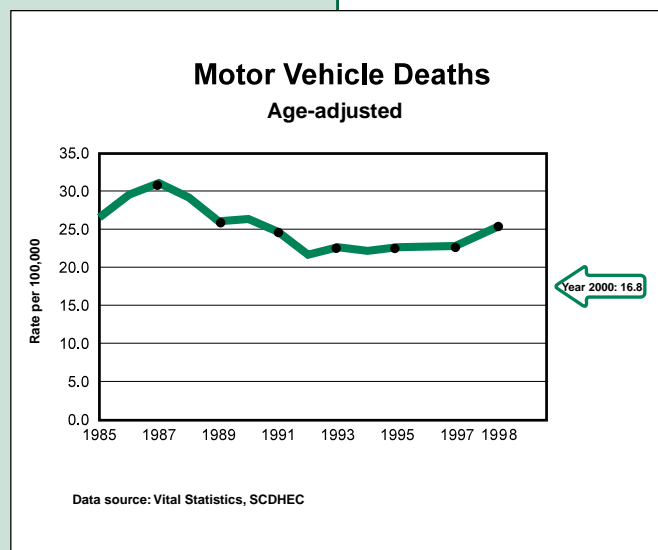


Fig. 4.3c

- The motor vehicle death rate has not improved in the last eight years after two decades of steady improvement that was the result of safer cars, safer highways and increasing seat belt use.

Fig. 4.3e

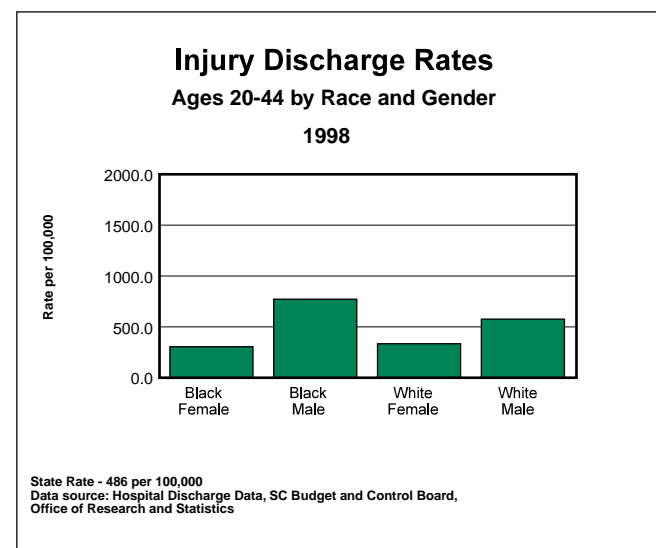
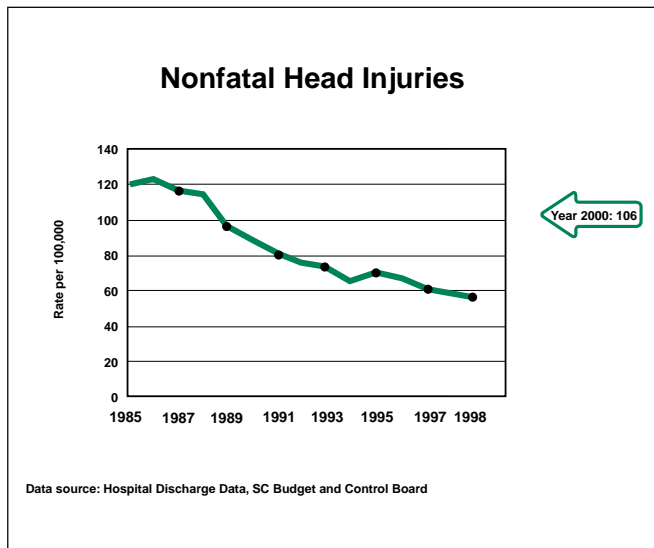


Fig. 4.3e

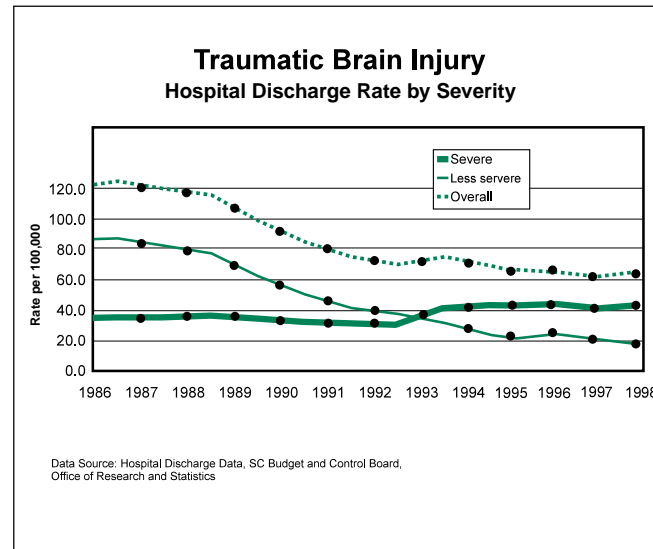
- Men, Black men in particular, are substantially more likely to be hospitalized for injuries.

Head injuries are much more likely to cause disability or death than injuries to other body sites; they account for only about 9 percent of trauma hospitalizations, but 20 percent of trauma deaths and more than 33 percent of permanent disabilities from injuries. South Carolina's overall rate of hospitalization for head injuries is well below the **Healthy People 2000 Objective** of 106 per 200,000 people yearly, but the decrease has been completely in less severe head injuries (Fig. 4.3f).

**Fig. 4.3f**



**Fig. 4.3g**



- Hospitalizations for more severe injuries have not dropped at all in the last 15 years. Thus the apparent decrease in less severe head injuries is probably a result of managed care incentives to take care of them without hospital admission.

**Young Adults  
20 through 44**

## Young Adults 20 through 44

### Violence

The United States ranks first among industrialized nations in violent death rates. South Carolina's rate of violent crimes is fifth highest in the United States, and our homicide rate in Young Adults is not decreasing. The highest rates of homicides are in our rural counties, not our cities (Fig. 4.4a).

Fig. 4.4a

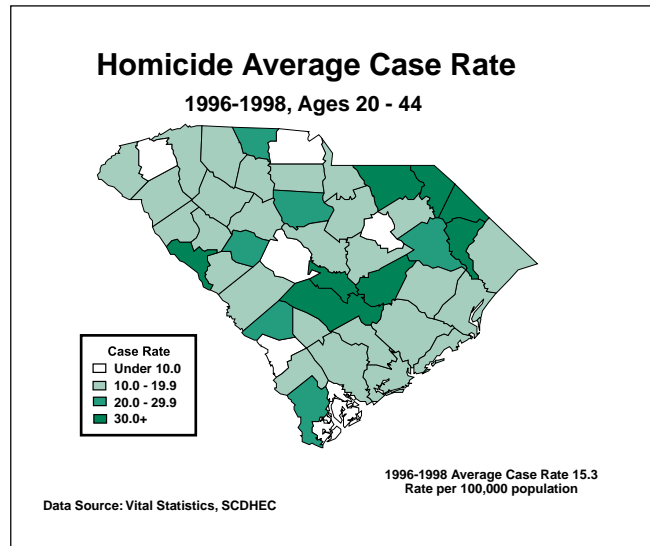
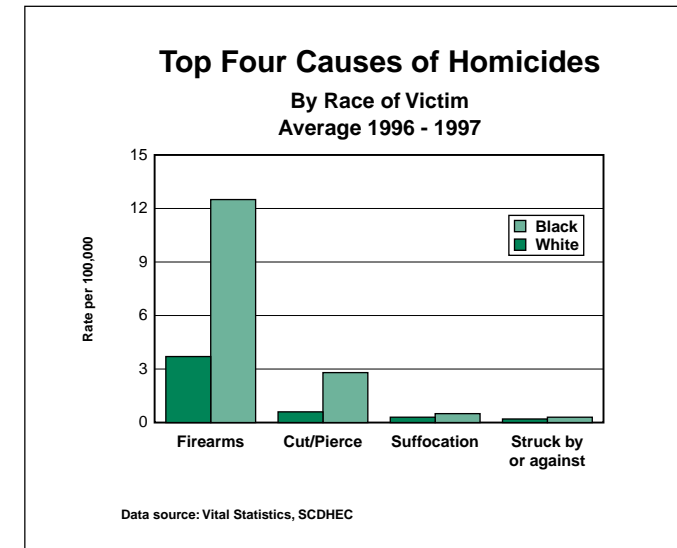


Fig. 4.4b



- Firearms by far cause the most homicides. For every method, Blacks (primarily men) are three to four times as likely to be victims.



## Homicides

Homicides underwent a striking epidemic during the early 1990s (Fig. 4.4c), which was limited to Black men under age 24 (Fig. 4.4d). The cause is not fully known, but was probably partly related to the epidemic of crack cocaine use during this period. Still today, more than half of homicides are related to alcohol use and almost a third to drugs.

Fig. 4.4c



Fig. 4.4e

- Suicides in 1998 dropped almost enough to reach the **Healthy People 2000 Objective** of 10.5 per 100,000. However, the suicide rate has not substantially decreased during the last 15 years.

Fig. 4.4d

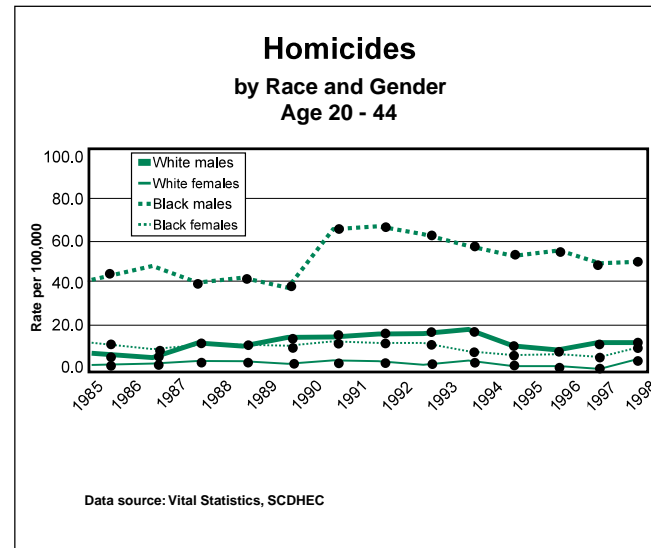
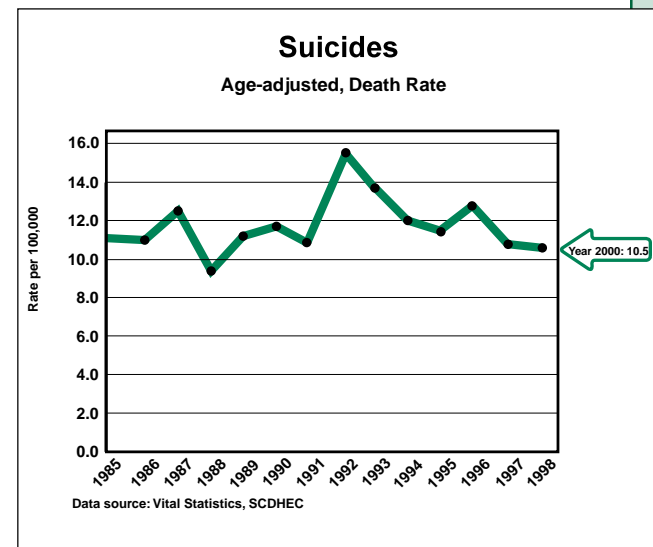


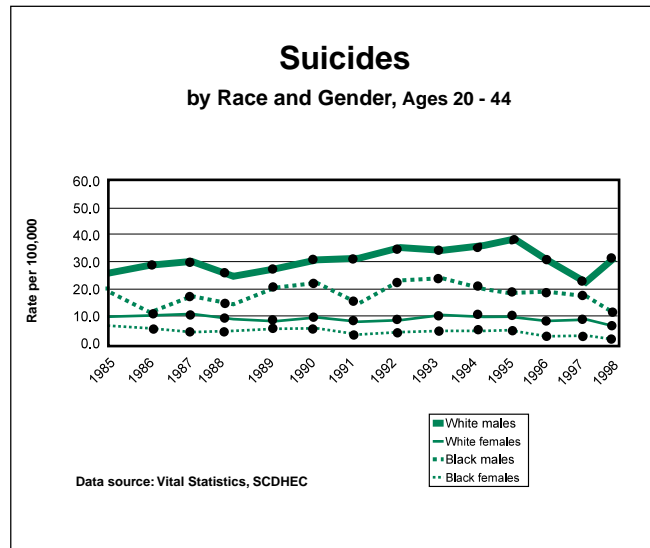
Fig. 4.4e



**Young Adults**  
**20 through 44**

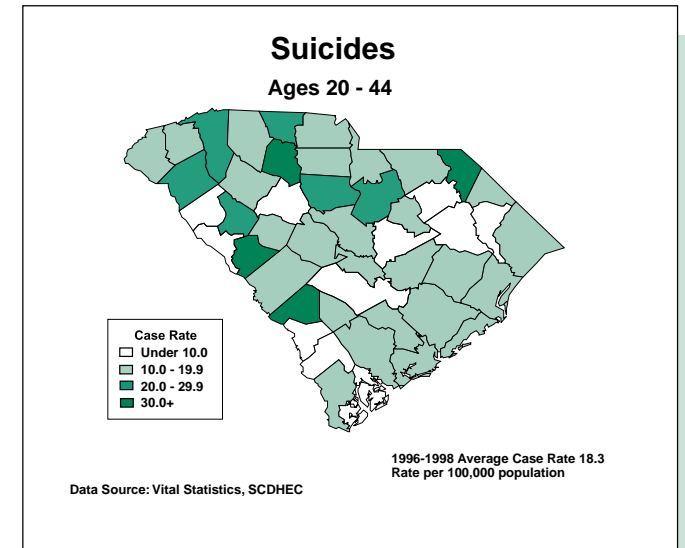
## Young Adults 20 through 44

Fig. 4.4f



- The suicide rate is highest among young adult White and Black males. While we are especially disturbed by suicides in teenage boys, in fact their rate is far lower than in men in their 20s and above and has not been rising.

Fig. 4.4g



- Suicide rates are slightly higher in the Upstate (Fig. 4.4g). In South Carolina, as in the United States, suicide rates have exceeded homicide rates in young adults. While better law enforcement may be preventing homicides, this “crossover” in rates underscores the need to find better methods of suicide prevention in teens and young adults.

## ***Communities plan HIV/AIDS prevention***

He is African American, most often falling somewhere between 20 to 39 years old, and, in almost half the cases, became infected during unprotected male-to-male sex.

His is the statistical face of HIV/AIDS in South Carolina and the nation. His knowledge of how the disease is spread could have prevented his infection.

Successful prevention efforts and community support require assistance from a variety of sources, especially organizations that represent those most at risk. South Carolina has one statewide HIV prevention planning group sharing responsibility with DHEC to help communities plan prevention initiatives guided by three basic principles: parity, inclusion, and representation of those infected, and affected, by the HIV/AIDS epidemic.

Many people from a myriad of groups implement these prevention efforts in communities. Coordinating these activities falls under the umbrella of local collaborations often consisting of community-based direct service providers, local health department staff, governmental agencies and others interested in providing prevention messages to specific populations.

One successful example of cooperation in South Carolina is the Midlands HIV Prevention Collaboration. Representing more than 30 organizations, the Midlands Collaboration meets monthly to plan implementation of prevention activities. Diverse membership includes the USC Health and Wellness Programs, Palmetto AIDS Life Support Services (PALSS), Acercamiento Hispano, Common Threads, SC HIV Network, the SC African American HIV/AIDS Council, SC AIDS Education Network, the Ecumenical AIDS Ministry, and others dedicated to HIV/AIDS prevention services.

Among the activities spearheaded by members of this group are:

- The Acercamiento Hispano/Hispanic Outreach program is working with migrant farm crew members to coordinate prevention efforts when they return to South Carolina in May. HIV/AIDS prevention materials, videos and group presentations will be

made available to the workers. The program's presentations are supported by USC's Sala Student Association of Latin America, student volunteers from the School of Public Health, and even local high school students. DHEC's Palmetto Health District provides assistance with HIV testing and counseling for interested workers.

- In the African American community, the SC African American HIV/AIDS Council supports prevention efforts with their constituents. The council administered the Collegiate Youth Risk Behavior Survey to more than 450 students at Benedict College in Columbia. These tests give decision makers insight into the beliefs and behaviors of young people most at risk for HIV infection. Additionally, 33 African American students and adult mentors received the Nurturing the Tree of Life HIV/AIDS Prevention Curriculum. These volunteers will serve as peer health advocates to other students at Benedict.
- PALSS, through its Women's Health Council Project, has established two health council projects in subsidized housing communities to train African American women ages 18-44 in risk reduction skills. Women who do not participate in the regular council activities are offered innovative programs such as support group sessions where they share anecdotal experiences. The sessions also help these women develop skills in the identification of risky behaviors and planning for risky behavior trigger management.

**Mobilizing community partnerships and action to identify and solve health problems with the goals of educating, informing and empowering people about health issues and linking them to needed personal health services are essential public health services achieved through these efforts.**

## ***Young Adults 20 through 44***

## ***Summary Findings for Young Adults 20 to 44***

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### **HIV/AIDS:**

The number of new infections leveled off in 1992 and began dropping thereafter. However, it rose slightly in 1998. AIDS occurs at the highest rate in Black men. The highest three-year average risks of infection were not in urban counties, but were in Jasper, McCormick, Marlboro, Allendale and Bamberg.

### **Sexually transmitted diseases:**

Among the 50 states, South Carolina was second in gonorrhea, first in chlamydia and sixth in syphilis, as well as fifth in AIDS, in 1998. By the end of 1998, South Carolina's syphilis rate was the lowest ever recorded. Screening for chlamydia has become more widespread, which probably accounts for the rise in rates. The rate of hospital discharges for pelvic inflammatory disease has fallen steadily over the past 12 years.

### **Unintentional injuries:**

South Carolina has the sixth highest death rate from motor vehicle collisions in the United States. The rate has not improved in the last eight years. Men, Black men in particular, are substantially more likely to be hospitalized for injuries. Hospitalizations for more severe injuries have not dropped in the last 15 years.

### **Violence:**

South Carolina's rate of violent crimes is fifth highest in the U.S. The rate of homicide is not decreasing and is highest in rural counties. While suicides dropped in 1998, the overall decline has not been significant in 15 years. Suicides are highest in the Upstate and among White males and Black males.

## Adults 45 through 64

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A significant drop in death rates and an increase in life expectancy have contributed to the unprecedented growth in the adult population. The lifestyle behaviors practiced earlier in life will make a difference in whether these preretirement years are spent in good or bad health.

South Carolina's adult population is growing, and this group grew almost 12 percent between 1980 and 1990. South Carolinians ages 45 to 64 composed almost one-fifth – 18.5 percent – of the total 3.5 million state population. This growth trend is paralleled nationally as persons born during the post-World War II “Baby Boom” begin their second 50 years of life.

It is during this age interval that cancer becomes a real health threat. Cancer has become the leading cause of death in this age group as heart disease deaths have been reduced by 49 percent and stroke deaths have dropped 58 percent over the past 25 years. Nevertheless, most people who die from heart attacks are between the ages of 55 and 64. Nearly 47 percent of these premature deaths could be prevented by changes in individual lifestyle behaviors.

Cancer, heart disease, stroke and injury are largely preventable. Diabetes, asthma and many other chronic conditions are manageable. This section discusses the leading causes of death during this age interval and opportunities for intervention.



## Adults 45 through 64

### Cancer

Cancer, one of the public's most feared diseases, is the second leading cause of death among all South Carolinians, accounting for 22 percent of all deaths in 1998. In South Carolina, the risk of death due to cancer among Blacks is 1.4 times the same risk among Whites. It is the leading cause of death in this age group, accounting for more than 31 percent of all deaths in people ages 45 to 64.

### Lung Cancer

Lung cancer is the most common cause of cancer deaths in South Carolina. Among women, lung cancer death rates continue to increase and in 1986 surpassed breast cancer as the leading cause of cancer death. The five-year survival rate for all patients with lung cancer is 13 percent, compared to 7 percent in 1963. Changes in personal smoking habits will reduce the risk for this cancer.

Hospitalization rates for lung cancer among men are two times higher than for women. Among women, there is a higher lung cancer hospitalization rate for Whites compared to Blacks. The hospitalization rates among Black women are slightly increasing over time. Charges for hospitalizations in 1998 for lung cancer among people 45 to 64 were more than \$31 million. The average hospitalization cost for a lung cancer patient was \$15,448.

Fig. 5.1b

- The prevalence of smoking, which can lead to lung cancer in adults ages 45 and older, is highest among Black men.

Fig. 5.1a

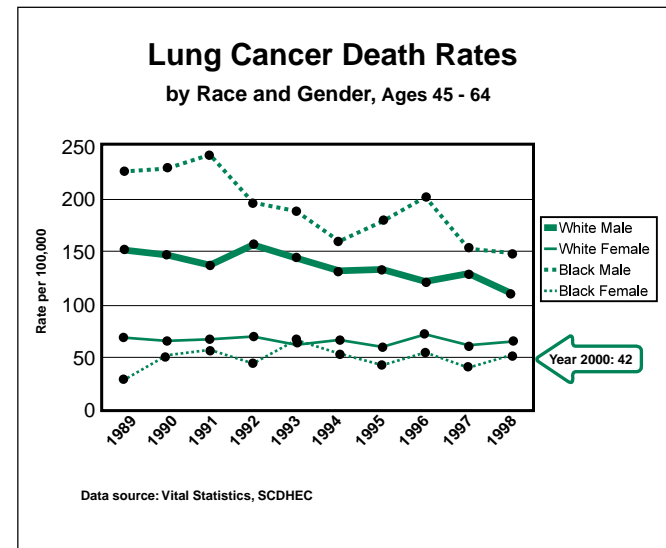
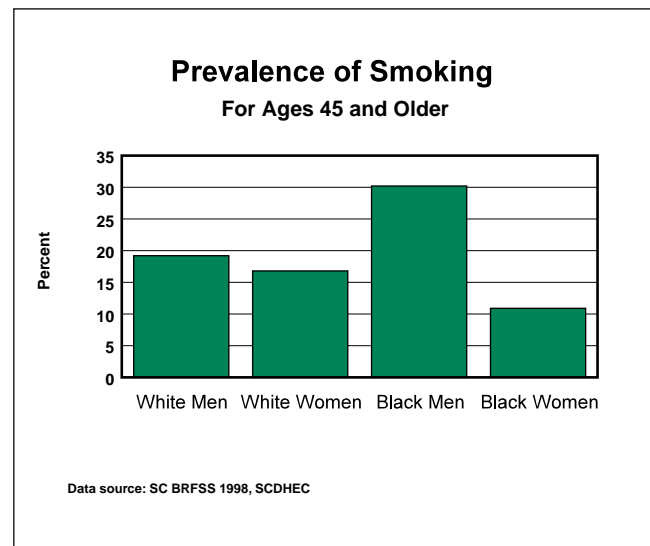


Fig. 5.1a

- In 1998, 748 people ages 45 to 64 died of lung cancer in South Carolina.

Fig. 5.1b

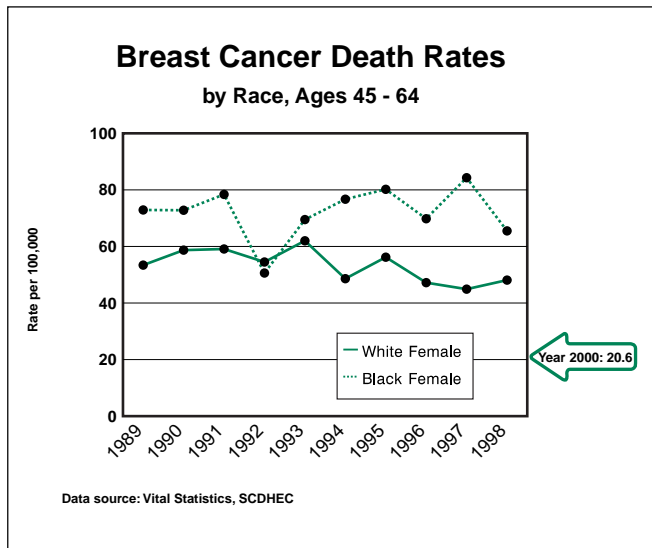


- The death rate from lung cancer is considerably higher for men than women, with death rates for Black men being much higher than those for White men.
- The overall mortality rate for males is slowly decreasing. Lung cancer death rates differ only slightly for Black and White women ages 45 to 64.

## Breast Cancer

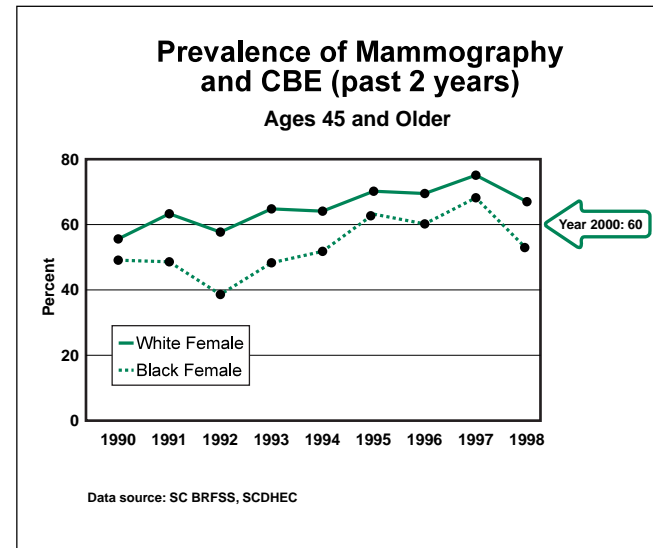
Breast cancer, the most commonly diagnosed cancer in women, is the second leading cause of death among women in South Carolina. (Since breast cancer rarely occurs in men, this section reflects only data about women.) Approximately one in eight women will develop breast cancer in her lifetime. The survival rates for breast cancer range from 69 percent for cancer that has spread to almost 96 percent for localized cancer.

Fig. 5.2a



- There were 232 deaths from breast cancer among females 45 to 64 years old in South Carolina in 1998.
- Breast cancer death trends have varied over the past 10 years, with Blacks having a higher mortality rate since 1992 than Whites. South Carolina's mortality rates are much higher than the **Healthy People Year 2000 Objective** of no more than 20.6 deaths per 100,000 women.

Fig. 5.2b



Black and White women had the same hospitalization rates for breast cancer in 1998. In 1998, total charges from breast cancer hospitalizations topped \$14 million. The average cost per hospitalization for breast cancer was \$9,899.

Early detection of breast cancer is the most effective method for successful breast cancer treatment. The percentage of women that reported getting mammograms and clinical breast examinations within the last two years has decreased in the last year (Fig 5.2b). More White women are being screened than Black women.

**Adults  
45 through 64**



## Adults 45 through 64

### Uterine Cervix Cancer

Cancer of the uterine cervix is one of the most preventable cancers for women. The overall five-year survival rate for cervical cancer is 66 percent, but virtually all women will survive if cervical cancer is detected in the earliest stage.

South Carolina's overall age-adjusted cervical cancer rate of 1.7 deaths per 100,000 women is slightly higher than the **Healthy People Year 2000 Objective** of no more than 1.5 deaths per 100,000 women. In 1998, 32 women ages 45 to 64 died from cervical cancer in South Carolina.

Among women 45 to 64 years old, there were 425 hospitalizations for cervical cancer in 1998. Total hospitalization charges were more than \$5 million for cervical cancer in 1998. The average cost per patient was \$9,881. A PAP test is the primary screening tool for early detection of cervical cancer. Screening in this age group is particularly important to avoid mortality from advanced stage disease. The overall prevalence of PAP screening has been increasing for women ages 45 and older (Fig. 5.3b). In recent years, the gap between Black and White women for cervical cancer screening has virtually disappeared.

Fig. 5.3b

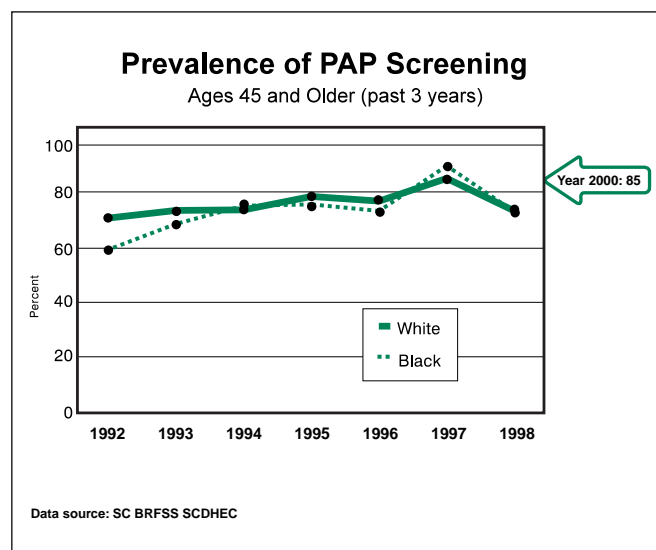
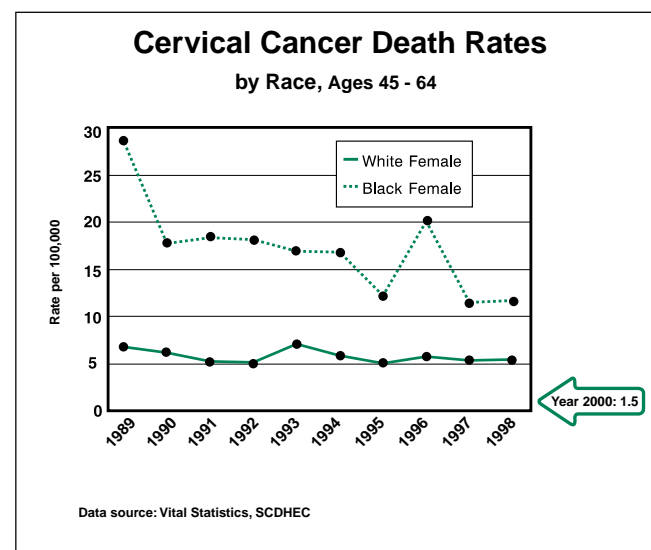


Fig. 5.3a



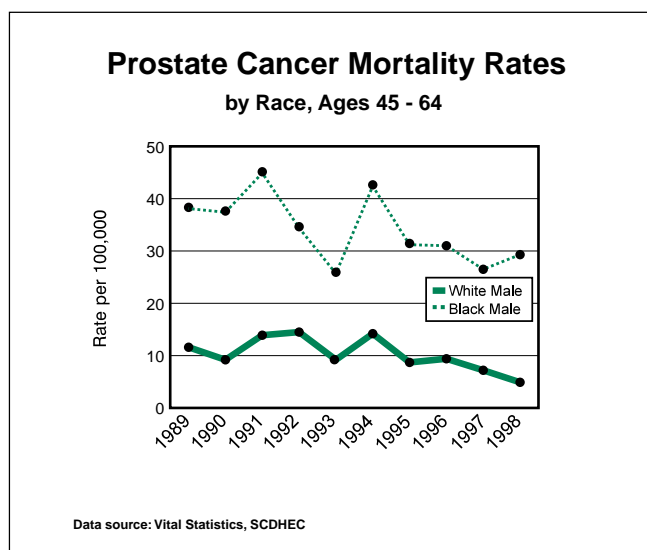
- Even though the rates are variable due to small numbers of deaths, the rate among Black women continues to be two times higher than for White women.

## Prostate Cancer

Prostate cancer is the most commonly diagnosed form of cancer among men in the United States and is second only to lung cancer as a cause of cancer-related deaths. Prostate cancer occurs at an age when other medical conditions such as heart disease and stroke may be a cause of death. Therefore, it is difficult to know how many men will die **with** prostate cancer rather than from it. National data indicate that most men get prostate cancer at about 70 years old, and about three-quarters of those with the disease will survive five years or longer. Family history is the greatest risk factor for prostate cancer. However, the lifestyle of a high-fat diet increases the risk for prostate cancer.

South Carolina's overall age-adjusted prostate cancer mortality rate was 6.1 deaths per 100,000 population in 1998. Prostate cancer deaths have been decreasing for White men, but have varied sharply in recent years and are now leveling off for Black men. Black men in the United States have one of the highest incidence rates of prostate cancer in the world. At all ages, Black men die from prostate cancer more often than Whites. The reasons for these racial differences are unknown, but use of early screening options is often suspected.

Fig. 5.4a



- In 1998, prostate cancer claimed the lives of 43 males ages 45 to 64 in South Carolina. Although the rates are not stable due to the small numbers of deaths, Black men are dying three to six times more often from prostate cancer than White men.

Black men are hospitalized for prostate cancer 1.5 to two times more often than White men. This is consistent with their tendency for later diagnosis. The prostate cancer hospitalization rate is increasing over time for men in this age group. Total hospitalization charges for prostate cancer were more than \$9 million in 1998, with an average cost of \$9,460.

**Adults  
45 through 64**

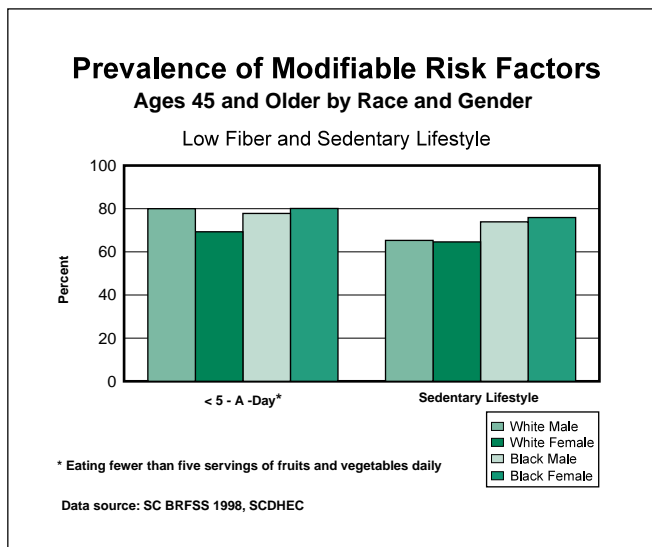
## Adults 45 through 64

### Colorectal Cancer

Cancer of the colon and rectum, also known as colorectal cancer, is the second leading cause of cancer death in the United States. Survival for patients with colorectal cancer varies based on the extent of disease at diagnosis. The five-year survival rate for colorectal cancer is 58 percent, with a rate of 89 percent for cancers identified in the early stages.

South Carolina's overall age-adjusted colorectal cancer mortality rate of 11.6 deaths per 100,000 population is better than the **Healthy People Year 2000 Objective** of no more than 18.7 deaths per 100,000 population. Death rates for Blacks have been increasing, but not so for Whites.

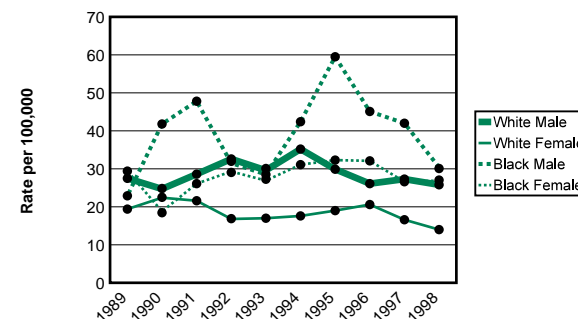
Fig. 5.5b



Screening exams for colorectal cancer should be considered as a part of every annual exam for people age 50 and older. People with a family history should begin this screening earlier and have it more regularly. Low fiber diets and sedentary lifestyles contribute to the risk of colorectal cancer. More than 60 percent of the adult population in South Carolina eats less than five fruits and vegetables daily and does not get enough physical activity (Fig. 5.5b).

Fig. 5.5a

### Colorectal Cancer Mortality Rates by Race and Gender Ages 45 - 64



- South Carolina's overall death rate for colorectal cancer was 22 per 100,000 population in 1998 for adults 45 to 64 years old. This cancer claimed the lives of 185 people ages 45 to 64 during 1998. Colorectal cancer mortality rates are higher for men than women.

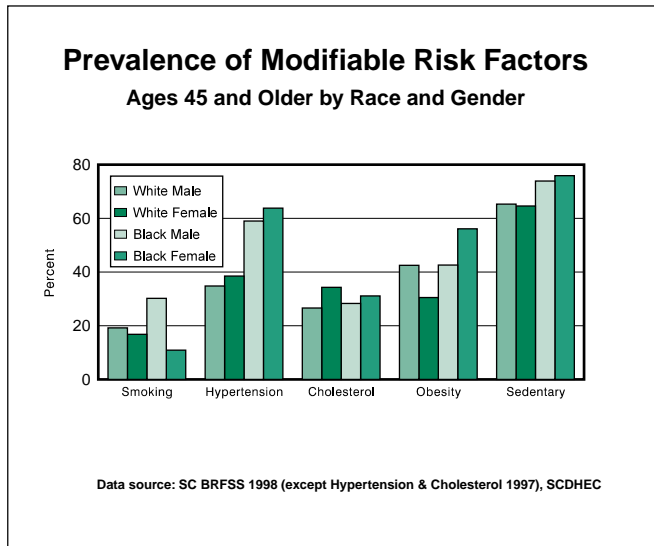
In general, hospitalization rates for people ages 45 to 64 are increasing, except for White women. Hospitalization charges for colorectal cancer were above \$18 million in this age group, with an average cost of \$14,980.

## Heart Disease

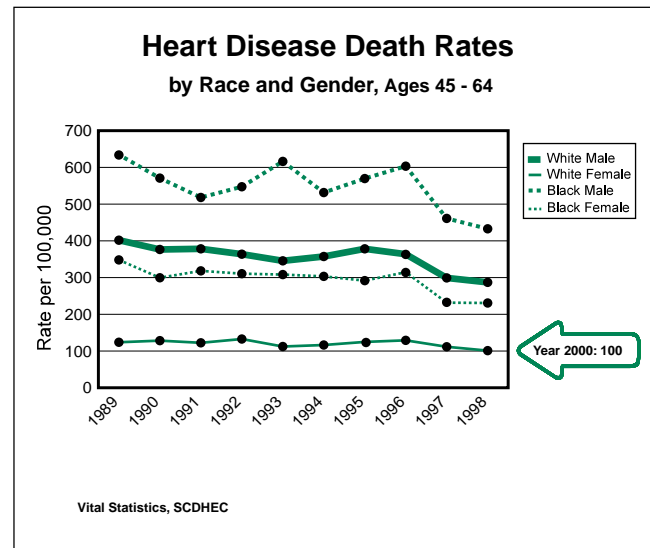
Heart disease has been the leading cause of death for all ages in South Carolina for many years. It follows cancer as the leading cause of death among people ages 45 to 64 in 1998, accounting for 27 percent of all deaths among persons in this age group.

Coronary heart disease (CHD), also known as ischemic heart disease or coronary artery disease, is a term used to identify several disorders that reduce the blood supply to the heart muscle. The most common symptom is chest pain. CHD represents almost two-thirds of all heart disease deaths in South Carolina.

**Fig. 5.6b**



**Fig. 5.6a**



- Heart disease claimed the lives of 1,890 South Carolinians ages 45 to 64 in 1998. In general, CHD death rates are decreasing. Men die from heart disease more often than women. The Black male death rate is 1.5 times higher than for White males, while the Black female mortality rate is two times higher than for White females.

Heart disease resulted in 58,067 hospitalizations for 45 to 64 year olds in 1998. Hospitalization rates appear to be increasing for all race and gender groups. Total charges for heart disease hospitalization for this age group were more than \$846 million in 1998, with an average charge of \$11,147 per patient.

Early intervention and preventive measures can reduce or postpone heart disease-related deaths. Smoking, high blood pressure, excessive body weight and physical inactivity increase the risk of heart disease (Fig. 5.6b). These personal and lifestyle factors are risks that can be modified to save lives. More men than women smoke. High blood pressure is high among South Carolina's Black population, with Black men almost twice as likely to have it as White men. White women had the highest prevalence of high cholesterol. More Blacks than Whites are obese, with Black women having the highest rate of obesity. More than 60 percent of all South Carolina adults lead a sedentary lifestyle.

**Adults  
45 through 64**

## Adults 45 through 64

### Stroke

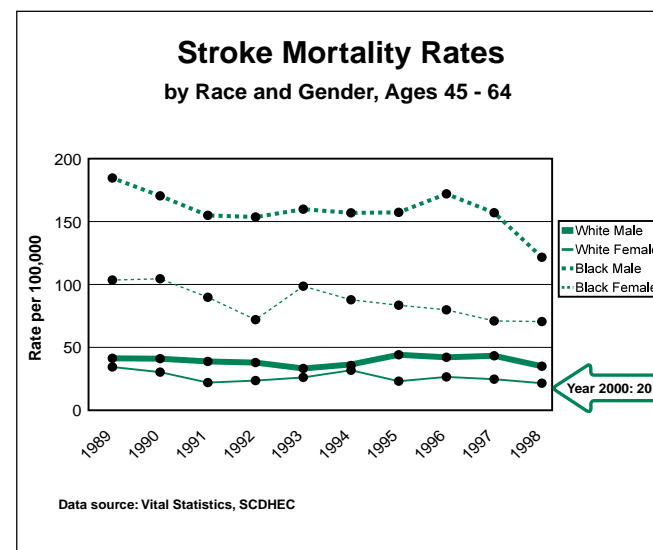
A stroke occurs when a blood vessel bringing oxygen and nutrients to the brain bursts or is blocked by a blood clot. When this happens, part of the brain is deprived of the blood flow it needs. Nerve cells in the affected area cannot function and die within minutes. When nerve cells are not functioning, the part of the body controlled by these cells cannot function either. Since dead brain cells are not replaced, a stroke often results in permanent damage.

South Carolina's stroke mortality age-adjusted rate was 75.7 for all ages in 1998. This was four times the **Healthy People Year 2000 Objective** of no more than 20 stroke deaths per 100,000 population for all ages.

Stroke is a major cause of disability for this age group and resulted in 6,719 South Carolina hospitalizations in 1998. Blacks were hospitalized for stroke almost twice as often as Whites. Hospital charges for stroke exceeded \$106 million in 1998, with an average cost of \$10,720.

Reducing high blood pressure can decrease the risk of stroke. Quitting smoking and a healthy lifestyle along with moderate, frequent physical activity may lower blood pressure.

Fig. 5.7



➤ Stroke, the third leading cause of death in South Carolina, resulted in 376 deaths among South Carolinians ages 45 to 64 in 1998. In the past 10 years, stroke deaths have been decreasing in this age group for Blacks, but remain constant for Whites. Death rates from stroke are considerably lower for Whites compared to Blacks. Mortality rates from stroke for Black men are approximately three times higher than those for White men. Similarly, the stroke mortality rate is about three times higher for Black women compared to White women.

## Diabetes

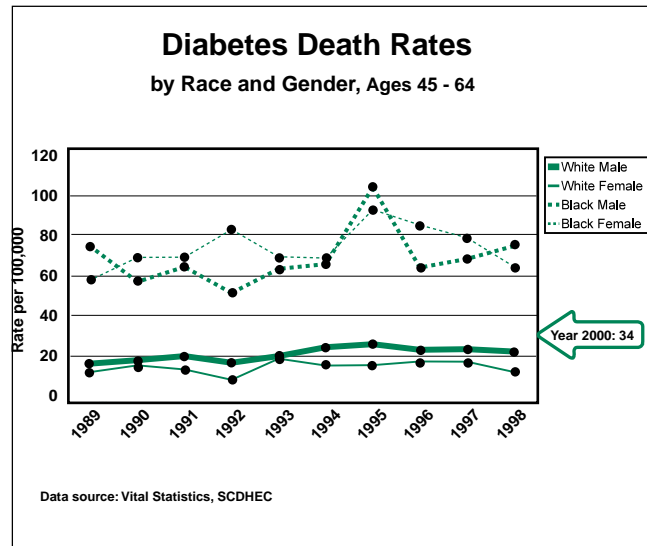
Diabetes is a disease that affects the way the body uses food. Diabetes causes sugar levels in the body to be too high. With diabetes, the body is unable to produce enough and/or properly use insulin, a hormone needed to change sugar into energy. People with diabetes have a shorter life expectancy than people without diabetes. They are at greater risk for other health problems including kidney disease, blindness, nerve and blood vessel damage, leg amputations and cardiovascular diseases.

The two major types of diabetes are type 1 diabetes, previously called insulin-dependent diabetes mellitus (IDDM) or juvenile-onset diabetes; and type 2 diabetes, previously called non-insulin-dependent diabetes mellitus (NIDDM) or adult-onset diabetes. Type 1 diabetes may account for 5 to 10 percent of all diagnosed cases of diabetes and usually appears in childhood or adolescence. The majority of people with diabetes have type 2 diabetes. This form usually appears in midlife. Being overweight and physically inactive are risk factors for type 2 diabetes. People with a family history of diabetes, high blood pressure, and of African American, Hispanic American, Asian American, Pacific Islander, and Native American ethnicities are also at greater risk.

About one-third of all people with diabetes do not know they have it. Diabetes is a leading cause of death and disability in older adults. Finding and treating diabetes early can lower a person's chances of getting diabetes problems such as eye disease, kidney disease, nerve disease and heart disease. There are many symptoms of diabetes: frequent urination, excessive thirst, extreme hunger, dramatic weight loss, irritability, weakness, fatigue and nausea. Other symptoms include recurring infections, hard-to-heal skin or gums, bladder infections, drowsiness, blurred vision, tingling or numbness in feet, or itching. Recognition of these symptoms by older adults is critical to the early diagnosis of diabetes.

Diabetes is the seventh leading cause of death in South Carolina. Diabetes death rates are higher among Blacks than Whites, especially among women. Overall, Black men are 1.7 times as likely to die of diabetes than White men. Black women are more than four times as likely as White women to die of diabetes.

Fig. 5.8



- Diabetes as an underlying cause of death was reported for 269 people ages 45 to 64 in 1998. Black diabetes death rates for older adults were two times higher than for Whites.

Black men ages 45 to 64 are hospitalized the most of any race and gender group with diabetes in South Carolina. Their high rate of hospitalization is followed by Black women. Compared to Whites, Black South Carolinians are hospitalized more than three times as often. South Carolina hospital charges for diabetes exceeded \$336 million in 1998. The average cost of diabetes for people 45 to 64 years old was \$12,587.

## Adults 45 through 64

## *Protecting the public from food borne outbreaks*

On December 10, 1998, Kevin Busby and Dwight Thomas of DHEC's Anderson County office learned of 12 cases of severe vomiting, diarrhea and abdominal cramps, two severe enough to require hospitalization, in persons who had attended a Christmas luncheon at the Civic Center earlier that day. The Appalachia I Health District Epidemiology Team promptly began an investigation to find the cause of this outbreak. They sought out and questioned both the sick and those who had attended the lunch but did not get sick to identify the food or foods linked to the sick. The catering business that had supplied the food was inspected and food samples taken to the State Laboratory in Columbia the next morning.

Thomas found that aluminum pans of barbecue had arrived at the luncheon hot, but had not remained heated during the two hours the lunch was served. All those who had fallen ill had eaten during the second half of the luncheon.

But before the district staff began regulatory action, a call came in from the local hospital emergency room. Seventeen more people were reporting severe abdominal cramps, vomiting and diarrhea. They all had eaten at a catered Christmas dinner earlier that day. Epi-team investigators discovered at least 35 sick out of 45 who had attended this second Christmas event had illnesses and short incubation periods identical to those of the Civic Center outbreak a week earlier. And one of the two catering agencies for this outbreak was the same one who had provided food at the Civic Center.

Regulators made an immediate visit to the catering business, where they learned that the same people had prepared the food for both events. With a new method

*Aluminum pans of barbecue had arrived at the luncheon hot, but had not remained heated during the two hours the lunch was served. All those who had fallen ill had eaten during the second half of the luncheon.*

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available at the State Laboratory called pulsed-field gel electrophoresis (PFGE), investigators found an identical link between the bacteria in the barbecue from the first outbreak, in the ham from the second outbreak, from the finger of one catering employee, and from the nose of two employees. The chances of this occurring by chance would be almost impossible.

With this evidence, the caterer was closed and not allowed to re-open until all food-handling procedures were reviewed using a "Hazard Analysis-Critical Control Points Analysis." Their methods were improved, and employees received special training. In the next month two surprise inspections were conducted, and no violations of correct procedures found. Since then, no food borne disease has been found associated with this establishment.

**Community health problems were identified quickly and investigated, the source of the health problem sought, and through education and enforcing laws and regulations to protect health and safety, the cause of the health problems could be corrected and prevented in the future.** These essential functions of public health all are represented in this case.



## Summary Findings for Adults 45 through 64

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### **Cancer:**

Cancer is the second leading cause of death among South Carolinians, but is the leading cause of death in this adult age group. Lung cancer is the most common cause of cancer death in the state. The cancer death rate for men is considerably higher than for women. Breast cancer follows lung cancer as the leading cancer killer of women. Prostate cancer is the second leading cause of cancer deaths among men. The cervical cancer mortality rate is two times higher for Black women than for White women. Colorectal cancer death rates are highest for Black men in this age group.

### **Heart Disease:**

Death rates from heart disease are decreasing, but it is still the overall leading cause of death in the state and nation. It is the second leading cause of death in the 45 to 64 age group. The Black male death rate is 1.5 times higher than for White males, while the Black female mortality rate is two times higher than for White females.

### **Stroke:**

The third leading cause of death in the United States and in South Carolina, stroke has been decreasing among Blacks in this age group, but remains constant for Whites. Nonetheless, more Blacks than Whites continue to die from strokes.

### **Diabetes:**

People often develop diabetes while in this age group. It is the seventh leading cause of death in the state and is a particular problem among Blacks. About one-third of the people with diabetes do not know they have it. People with diabetes have a shorter life expectancy and may develop other health problems.

## ***Mature Adults 65 and Older***

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A population explosion is occurring among South Carolina's older residents. The 65 and older population grew by 37.1 percent from 1980 to 1990, with the largest percent increase – 52.4 percent – occurring among the 75 and older age group. South Carolina's mature adult population comprised 11.3 percent of the 1990 population. This age group is projected to account for one out of every three South Carolinians by the year 2020.

Thanks to healthier lifestyles and health-care breakthroughs this century, more people are living longer. The challenge for individuals and society will be to ensure a high quality of life during these longer lives. One may expect to live an additional 16.4 years if they survive to age 65. Currently, however, an average of only 12 of those years will be healthy ones.

The major causes of death among South Carolinians ages 65 and older are heart disease, cancer, stroke, respiratory disease and diabetes. Chronic problems such as arthritis, osteoporosis, incontinence, visual and hearing impairments and mental illness are also concerns because they impair day-to-day living. Difficulty in performing activities required for daily living, such as bathing, dressing and eating, limits independence. By adopting healthy lifestyles, even in old age, one may improve his or her physical functioning and reduce disability.

This section examines the health of mature adults and the leading causes of death in this age group: heart disease, cancer, stroke, diabetes and falls, and one other disease with increased frequency in this age group: osteoporosis. Risk factors for these diseases are discussed in the older adult (45-64) age-group chapter. Data on risk analyses are presented there because the sample size is too small to report accurately for older-than-65 only.

## Heart Disease

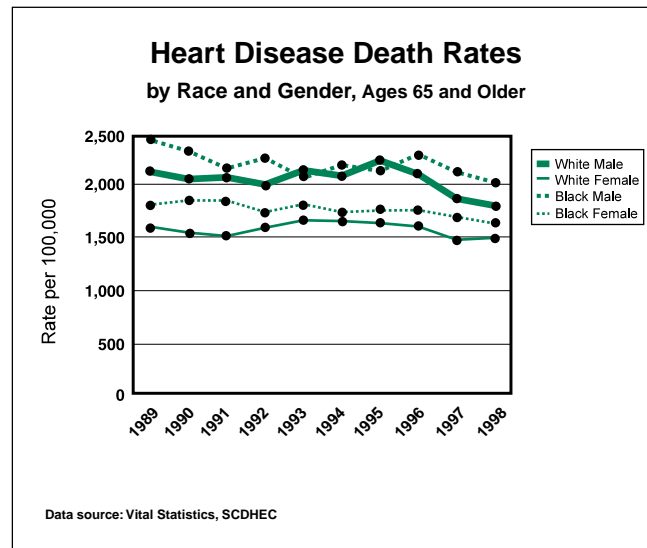
Heart disease remains the leading cause of death among mature adults, claiming the lives of 7,716 South Carolinians ages 65 and older in 1998 and accounting for about 32 percent of all deaths in this age group.

Heart disease resulted in 107,769 hospitalizations for adults ages 65 and older in 1998. Hospitalization rates are increasing for all race and gender groups. Total charges for mature adults were more than \$1.5 billion in 1998, with an average cost of \$11,255.

Effective treatment when the first signs of heart disease appear can reduce or postpone some heart disease deaths. Eliminating or reducing risk factors, however, has the greatest potential for reducing heart disease, disability and death. Risk factors that increase the chances of heart disease include smoking, high blood pressure, excessive body weight, and physical inactivity (Fig. 5.6b, page 61).

More men than women currently smoke. High blood pressure is more common among South Carolina's Black population. It occurs twice as often in Black men as in White men. White women had the highest prevalence of high cholesterol. Black women have the highest rate of obesity in South Carolina. Overall, more than 60 percent of adults do not get enough physical activity.

Fig. 6.1



- Heart disease death rates are decreasing over time in all race and gender groups. Men face a higher risk of death from heart disease than women.

## Mature Adults 65 and Older

## Mature Adults 65 and Older

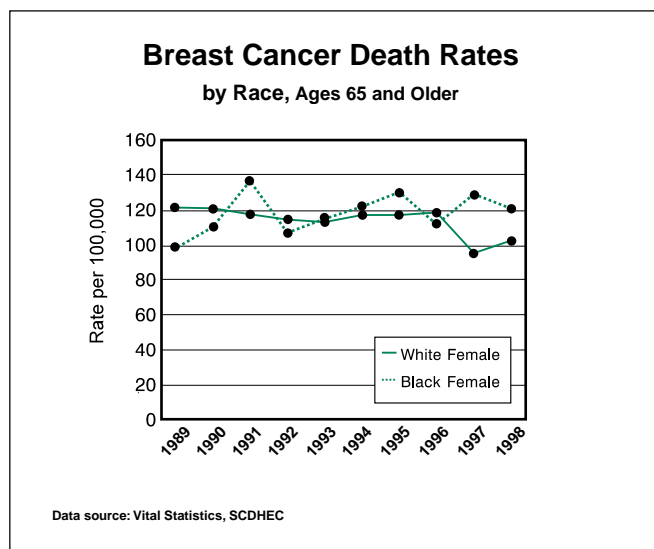
### Cancer

Cancer is the second leading cause of death among people 65 and older. Cancer accounted for more than one-fifth of all deaths in 1998 in this age group.

### Lung Cancer

In 1998, there were 2,798 hospitalizations for lung cancer. Hospitalization rates are highest among Black men. Charges for hospitalizations for lung cancer for people ages 65 and older in 1998 were more than \$48 million.

Fig. 6.2b

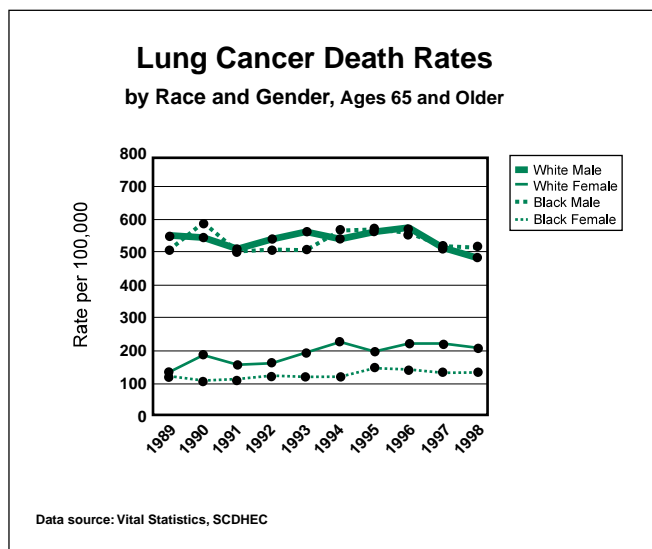


### Breast Cancer

Hospitalization rates for breast cancer are highest among White women. Total hospitalization charges for breast cancer for mature adults in 1998 were more than \$10 million.

- From 1989 through 1998, breast cancer death rates increased for Black women, while rates among White women decreased slightly.

Fig. 6.2a



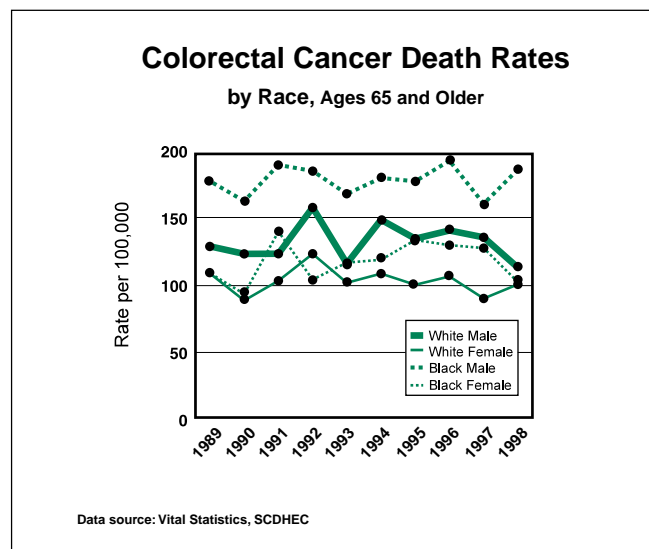
- Lung cancer deaths are remaining constant for all race and gender groups in mature adults. In 1998, the lung cancer death rate for men was 2.6 times higher than for women, and White women had 1.6 times higher mortality rates than Black women.

## Colorectal Cancer

In 1998, mature adults were hospitalized 1,853 times for colorectal cancer, with the highest rate for Black men. Total hospitalization charges for colorectal cancer in people ages 65 and older were more than \$41 million during 1998.

- Death rates for cancer of the colon and rectum, also known as colorectal cancer, are higher among men than women. Rates for Black males are the highest among all groups.

Fig. 6.2c



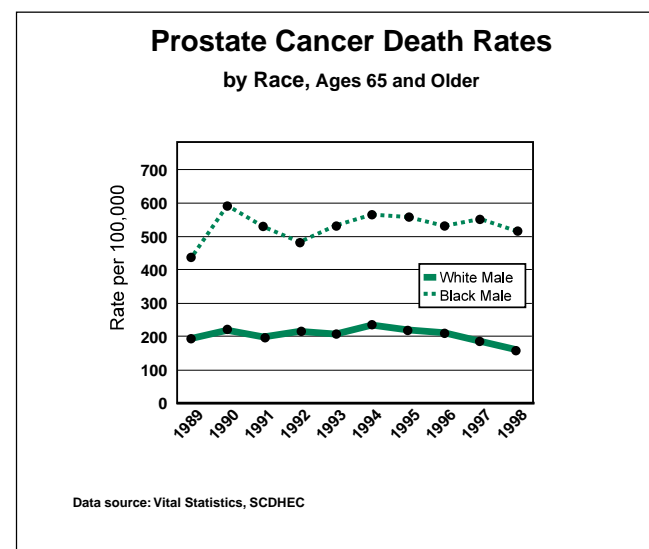
## Mature Adults 65 and Older

## Prostate Cancer

Prostate cancer is the second leading cause of cancer among men. Prostate cancer hospitalization rates in 1998 indicate Black men are hospitalized two times more often than White men. While the White rate is decreasing, the rate for Black men has remained constant. Hospitalization charges for prostate cancer were more than \$27 million in 1998 for mature adults.

- Death rates for prostate cancer are increasing among Black men, with Blacks dying three times more often than Whites.

Fig. 6.2d



## Mature Adults 65 and Older

### Stroke

Stroke is the third leading cause of death in people 65 and older. It resulted in the deaths of 2,439 South Carolinians ages 65 and over in 1998, a rate of 520.7 per 100,000 population. Mature adults have a tenfold higher mortality rate than the older adults ages 45 through 64.

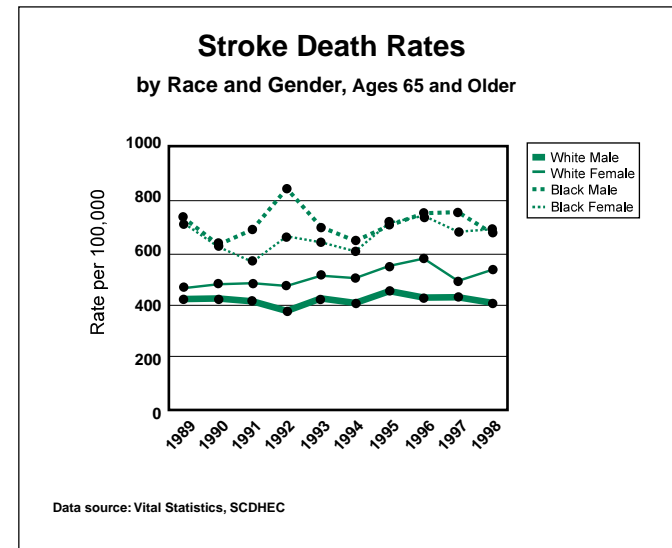
Fig. 6.3

- White women have more stroke deaths than White men. Black men die from stroke nearly twice as often as White men.

Mature adults were hospitalized 19,545 times in 1998 for stroke. Hospitalization rates of the 65 and older population for strokes are increasing for all race and gender groups. Hospital charges exceeded \$275 million in 1998 for this age group. The average stroke hospitalization cost was \$9,803 for mature adults.

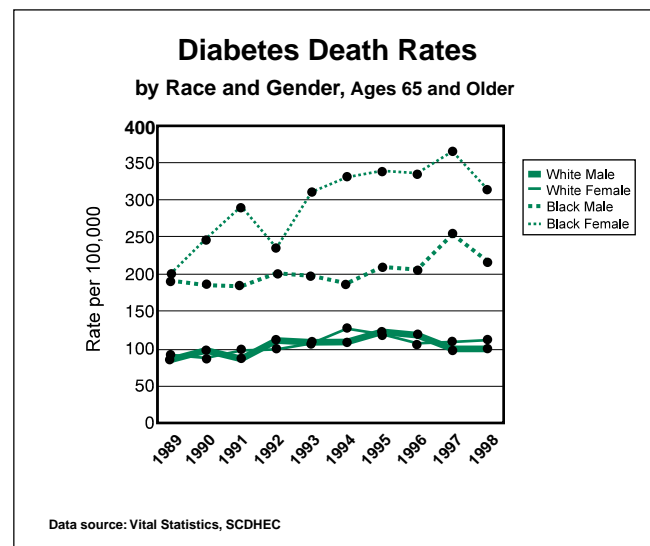
Reducing stress, quitting smoking and lowering high serum cholesterol can reduce the chances of stroke.

Fig. 6.3



### Diabetes

Fig. 6.4



- Diabetes is the sixth leading cause of death among mature adults. Diabetes death rates in South Carolina are increasing in all race and gender groups, with dramatic increases among Black females. The mortality rates are higher among Blacks than Whites. Almost 70 percent of all deaths from diabetes in 1998 occurred in mature adults.

South Carolina hospital charges for diabetes among mature adults exceeded \$482 million in 1998 for more than 35,000 hospitalizations. Like diabetes deaths, hospitalization rates are highest among Black females. Mature Blacks are hospitalized for diabetes over three times more often than Whites. (For more information on diabetes, see page 63.)

## Falls

Mature adults face an increased likelihood of falls, which are the leading cause of death from unintentional injuries in people 75 and older. The death rate from falls is high; 79 percent of all accidental fall deaths in 1998 occurred among South Carolinians 65 and over. Whites have higher rates of death due to falls than Blacks. In 1998, falls resulted in death for 141 Whites and 13 Blacks in this age group.

Injury-producing falls are more likely to occur in women. This gender difference may be related to the fact that women are more likely to develop osteoporosis, a condition in which the bones become thin and brittle. This means that women's bones are more susceptible to fracture should a fall occur.

There are many reasons mature adults fall. These include diminished motor and sensory capability. Poor muscle tone from the lack of physical activity also contributes to the risk of falls.

## Osteoporosis

In the United States, the National Osteoporosis Foundation (NOF) estimates that 28 million Americans are at risk for osteoporosis, 80 percent of whom are women. A 1997 state-by-state report released by NOF estimated that more than 360,000 South Carolinians age 50 and over have developed osteoporosis or are at risk for developing osteoporosis due to low bone mass. While the disease is diagnosed in advanced stages in the 65 and older age group, it can be detected in earlier stages in those ages 45 to 64 through bone mass density screenings that can be performed by a physician or other health practitioner.

Currently, the most reliable data to indicate the frequency of osteoporosis in South Carolina is hospital discharge data on vertebral, wrist and hip fractures. During 1998, data on residents treated in South Carolina hospitals show that there were 3,621 hospitalizations for hip fractures in mature adults, resulting in charges totaling more than \$65 million. Hospitalization rates for hip fractures in 1998 were highest for White women.

## Adult immunizations

The number of routine immunizations that a physician should consider for their adult patients is growing steadily these days: not only tetanus and diphtheria boosters every 10 years, and influenza and pneumococcal pneumonia after age 50, but also hepatitis B and a second dose of measles vaccine if these have not been completed earlier.

Pneumonia and influenza together are now the sixth leading cause of death in the United States and in South Carolina; for the over-65 age group, they are the fifth leading cause. Yet both vaccines are highly protective in most people while being very safe.

## Mature Adults 65 and Older

Fig. 6.5

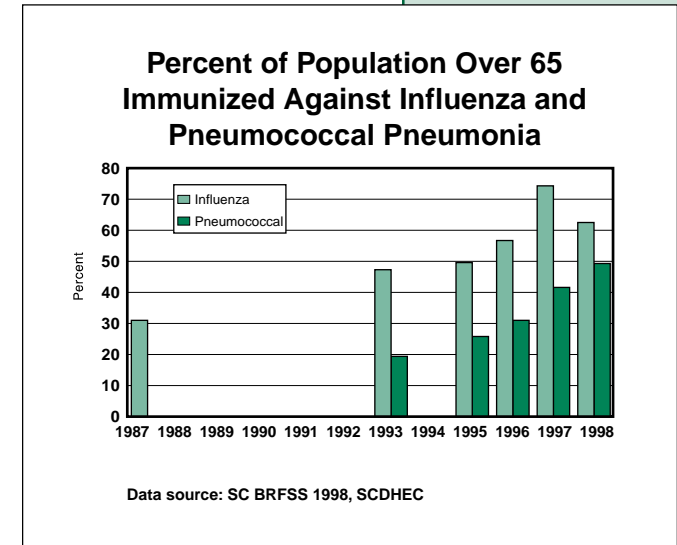


Fig. 6.5

- Since 1987, when data on immunization coverage of our 65+ population was first gathered, the percentage of South Carolina citizens who report being protected has risen steadily. The pneumococcal pneumonia vaccine lags behind, but even for that vaccine, almost half of persons over 65 said they had been immunized in 1998. As the new Centers for Disease Control and Prevention recommendations take effect beginning next fall and the new pneumococcal conjugate vaccine becomes available, we may start to see the death rate from pneumonia/influenza begin to drop in our state. One of the new recommendations is that people over 50 get a yearly influenza vaccination.



## *Eau Clair community works to reduce cardiovascular disease*

DHEC's Chronic Disease Division was awarded more than \$87,000 in 1999 to address the racial disparities for cardiovascular disease (CVD) through community level interventions. The intent of "Reducing the CVD Health Disparity Between the Races Initiative" is to implement cardiovascular disease interventions focused on nutrition and physical activity in the African-American community. At the same time it will provide an opportunity to explore the potential of community-based public health interventions with the African-American community as a catalyst for change toward a healthier community.

The selected community is the 29203 area of Richland County. This area was selected for two reasons: 81 percent of African-Americans in Richland County live in this zip code, and two areas of great health concern, based on a door-to-door canvassing by several churches, are cardiovascular disease and diabetes. An invitation for assistance from the faith community leadership made it possible for the CVD health disparity interventions project to support, guide and facilitate the development and implementation of culturally appropriate activities in this community.

DHEC will collaborate with Palmetto Health District and partner with the Columbia Urban League and other African-American groups on this initiative to assist with the

*An invitation for assistance from the faith community leadership made it possible for the CVD health disparity interventions project to support, guide and facilitate the development and implementation of culturally appropriate activities in this community.*

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coordination of trainings, assessments of community resources, and identification of key leaders and processes crucial to the success of this project. This initiative is an example of **mobilizing community partnerships to identify and solve health issues.**

DHEC will provide key local leaders as well as community partners with educational opportunities and training in media interaction, advocacy/influencing politics/policy leaders, grant writing, and accessing and using CVD community-specific data. These relate to the public health core activity of **informing, educating, and empowering people about health issues.**

## ***Summary Findings for Mature Adults 65 and Older***

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### **Heart Disease:**

Even though the death rates are decreasing, heart disease remains the leading cause of death among mature adults. Risk factors that increase the chances of heart disease include smoking, high blood pressure, excessive body weight and physical inactivity. High blood pressure leads to heart disease and is highest among Blacks.

### **Cancer:**

The second leading cause of death among mature adults, cancer accounted for more than one-fifth of all deaths to mature adults in 1998. Lung cancer deaths are remaining constant among all race and gender groups. Breast cancer death rates are increasing among Black women. Colorectal cancer deaths are higher among men than women. Prostate cancer is increasing among men.

### **Stroke:**

Stroke is the third leading cause of death in people 65 and older. White women have experienced more stroke deaths than White men. Black men died from stroke in 1998 nearly two times more often than White men.

### **Diabetes:**

Diabetes death rates are increasing in all race and gender groups, with dramatic increases among Black females. Almost 70 percent of all deaths from diabetes in 1998 occurred to mature adults.

### **Falls:**

Mature adults face an increased likelihood of falls, which are the leading causes of death from unintentional injuries in people 75 and older. Falls are more likely to occur among women, possibly because many women develop osteoporosis, a condition that leaves the bones brittle and thin. Falls result in death more for Whites than Blacks.

### **Osteoporosis:**

1998 hospital discharge data for South Carolinians over age 65 show 3,621 hospitalizations for hip fractures with a cost to the state of more than \$65 million. White women had the highest hip fracture hospitalization rates.

### **Adult immunizations:**

Pneumonia and influenza together are now the sixth leading cause of death in the United States and in South Carolina; for the over-65 age group, they are the fifth leading cause. Vaccines for both are highly protective in most people while being very safe.

## ***Additional Resources***

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### **Department of Health and Environmental Control (SCDHEC)**

Main Internet Web site: <http://www.state.sc.us/dhec/>

Internet directory of services and contacts: <http://www.state.sc.us/dhec/whocall.htm>

**AIDS/HIV Program:** (803) 898-0652

**AIDS/HIV Education & Public Information:** (803) 898-0796

**AIDS Hotline:** 1-800-322-2437

**Air Pollution & Asbestos - Health Effects:** (803) 898-0521

**Animal Bites:** (803) 898-0861

**BabyNet:** (803) 898-0591

**Bioterrorism:** (803) 898-0861

**Birth Certificates:** 898-3630

**Cancer Epidemiology/Prevention:** (803) 898-0779

**Cancer Hotline :** 1-800-422-6237

**Cardiovascular Disease Epidemiology :** (803) 898-0779

**Child Health Epidemiology :** (803) 898-0875

**Childhood Lead Prevention Program :** (803) 898-0384

**Children's Rehabilitative Services (CRS):** (803) 898-0789

**Communicable Disease Control :** (803) 898-0861

**Death Certificates :** (803) 898-3630

**Diabetes Programs (Local):** (803) 898-0537

**Drinking Water Problems :** (803) 898-3572

**Emergency Medical Services:** (803) 737-7204

**Environmental Concerns :** (803) 898-3929

**Environmental Health Division:** (803) 935-7945

**Epidemiology Division:** (803) 898-0861

**Family Planning Services:** (803) 898-0775

**Fish Kills, Oil Spills etc.:** (803) 253-6488

**Toll Free, 24 Hours** 1-888-481-0125

**General Sanitation:** (803) 935-7945

**Governors Council on Physical Fitness :** (803) 898-0554

**Handicapped Children's Services :** (803) 898-0784

**Healthcare Facilities:** (803) 737-7370

**Health Education :** (803) 898-0811

**Health Service Administration:** (803) 898-0500

**Healthy Communities:** (803) 898-0482

**Heart Disease Epidemiology:** (803) 898-0779

**Hemophilia Assistance Program :** (803) 898-0784

**High Blood Pressure Programs :** (803) 737-4125

**Immunization Branch:** 1-800-27-SHOTS (1-800-277-4687)

**Infant Mortality Statistics :** (803) 898-0742

**Laboratory Services:** (803) 935-7042

**Marriage License Lab Testing:** (803) 935-7042

**Maternal Health Services:** (803) 898-0767

**Media Relations :** (803) 898-3886

**Minority Health :** (803) 898-3481

**Mosquitoes (State) Vector Control:** (803) 935-7894

**Newborn Screening Program:** (803) 898- 0591

**Nursing Home/HHA Complaints Hotline:** 1-800-922-6735

**Paternity Lab Testing:** (803) 935-7042

**Pollutants in Water :** (803) 898-4300

**Pregnancy Toll-Free Hotline :** 1-800-868-0404

**Premarital Examination Lab Testing:** (803) 935-7042

**Prenatal Care Services :** (803) 898-0767

**Preventive Health Services:** (803) 898-0778

**Protective Services:** (803) 734-2422

**Public Health Epidemiology:** (803) 898-0861

**Public Safety:** (803) 734-7001

**Rabies (State) Vector Control:** (803) 935-7894

**Rape Prevention Services:** (803) 898-0670

**Rural Health Care:** (803) 898-0803

**Safety Hazards (EQC):** (803) 898-3920

**School Health Services & Nurses:** (803) 898-0620

**Sexually Transmitted Disease Educ & Public Info:** (803) 737-4110

**Sickle Cell Testing & Programs:** (803) 898-0602

**SIDS:** (803) 898-0586

**Smoking Programs :** (803) 898-0740

**State Health Plan:** (803) 737-7200

**Statistical Consulting:** (803) 898-3650

**Teen Pregnancy Prevention Program:** (803) 898-0753

**Toxic Hazards/Occupational Health Assessment:** (803) 898-0521

**Tuberculosis (TB) Control Branch:** (803) 898-0558

**Underground Storage Tank Management:** (803) 898-4350

**Veterinary Public Health:** (803) 898-0652

**Well Water Testing :** (803) 898-4174

**WIC CARELINE:** Toll Free 1-800-868-0404

**WIC (Women Infants & Children) Services:** (803) 898-0743

**Women's Health Programs:** (803) 898-0351